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Diseases *of the* Nervous System

A Practical Journal on Psychiatry and Neurology

Section One of Two Sections

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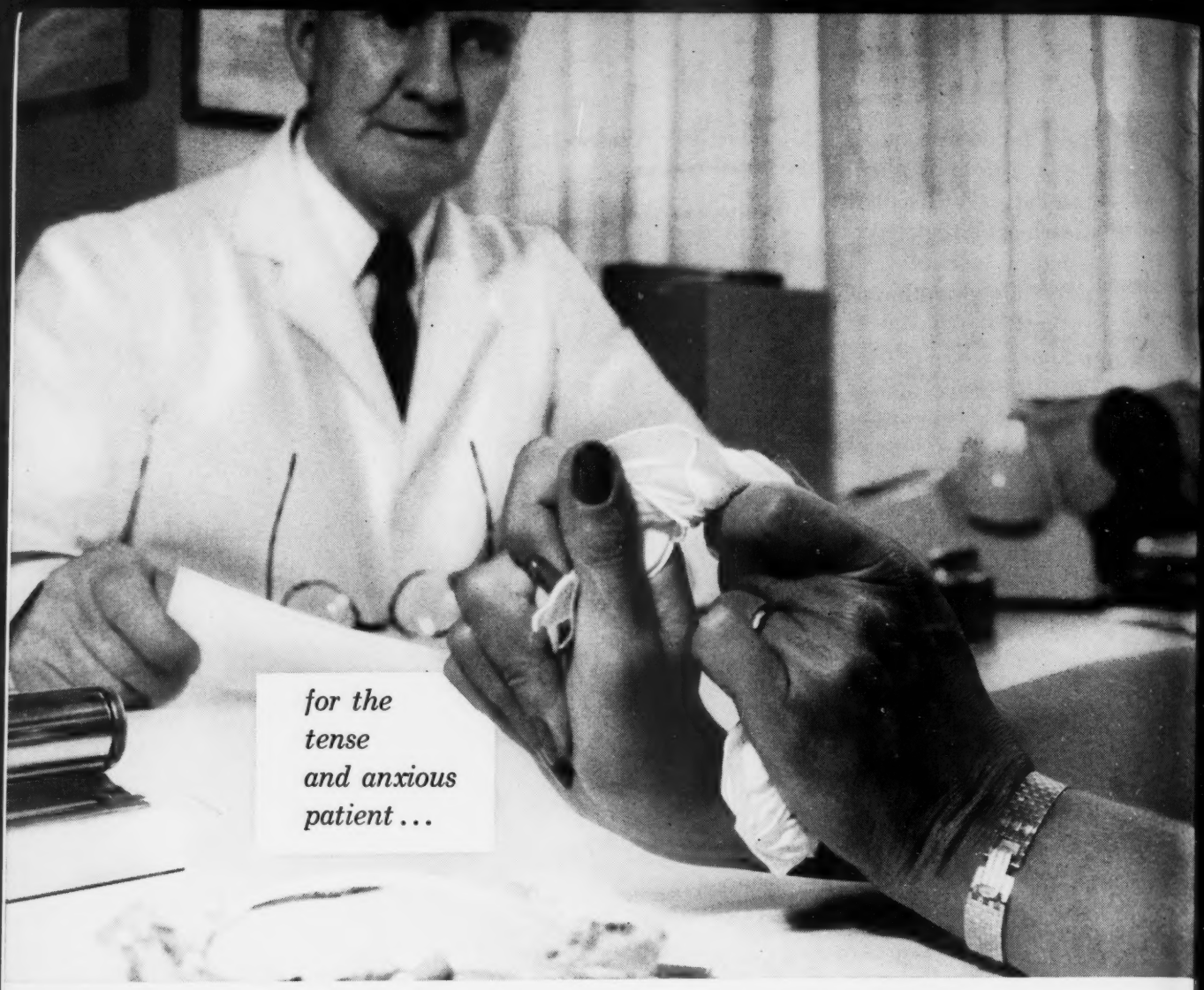

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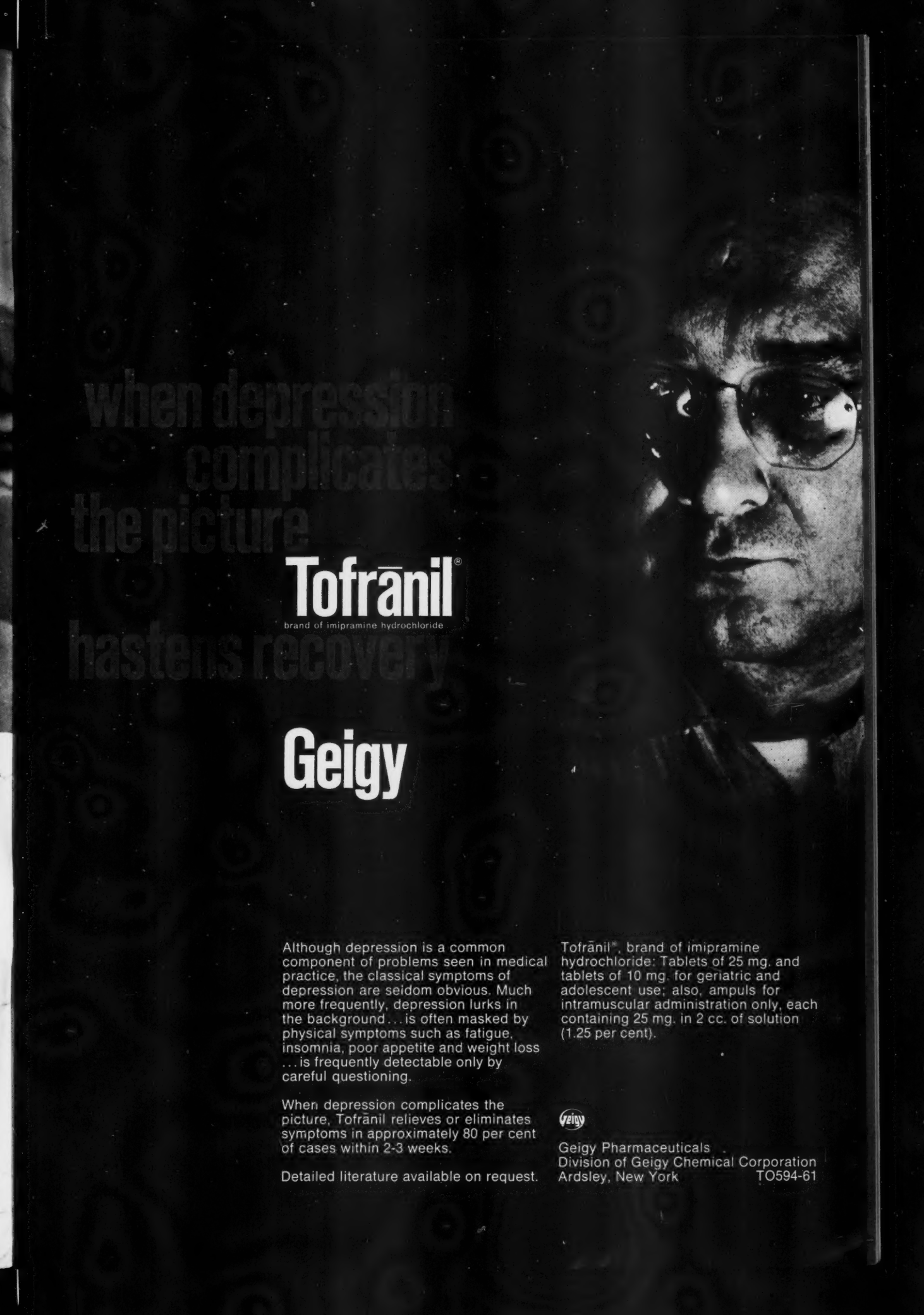

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Volume XXII SEPTEMBER 1961 Number 9

DISEASES *of the* Nervous System

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1. Vasconcellos, J.: Clinical Evaluation of Trifluoperazine in Maximum-Security Brain Damaged Patients with Severe Behavioral Disorders, J. Clin. & Exper. Psychopath. *21*:25 (Jan.-Mar.) 1960.

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INDICATIONS: 'Stelazine' produces rapid response in many diagnostic categories, including acute and chronic schizophrenias, manic-depressive psychoses, involutional psychoses, chronic brain syndrome and mental deficiency.

ADMINISTRATION AND DOSAGE: Dosage of 'Stelazine' should be adjusted to the needs of the individual.

Because of the inherent long action of 'Stelazine', patients may be controlled on convenient b.i.d. administration; some patients, on once-a-day administration.

Adult Dosage for Use in Psychiatric Practice

oral (for office patients and outpatients with anxiety): The usual starting dosage is 1 mg. b.i.d. In some cases, a better response is achieved on 2 mg. b.i.d. In the treatment of these patients, it is seldom necessary to exceed 4 mg. a day. (Some patients with more severe disturbances, and discharged mental patients, may require higher dosages.) In some patients, maintenance dosage can be reduced to once-a-day administration.

oral (for patients who are either hospitalized or under adequate supervision): The usual starting dosage is 2 mg. to 5 mg. b.i.d. (Small or emaciated patients should always be started on the lower dosage.)

The majority of patients will show optimum response on 15 mg. or 20 mg. daily, although a few may require 40 mg. a day or more. It is important to give doses that are high enough for long enough periods of time—especially in chronic patients.

Optimum therapeutic dosage levels should be reached within two or three weeks after the start of therapy. When maximum therapeutic response is achieved, dosage may be reduced gradually to a satisfactory maintenance level.

intramuscular (for prompt control of severe symptoms): The usual dosage is 1 mg. to 2 mg. (½-1 cc.) by deep intramuscular injection q4-6h, p.r.n. More than 6 mg. within 24 hours is rarely necessary. As soon as a satisfactory response is observed, oral medication should be substituted at the same dosage level or slightly higher.

Only in very exceptional cases should intramuscular dosage exceed 10 mg. within 24 hours. Since 'Stelazine' has a relatively long duration of action, injections should not be given at intervals of less than 4 hours because of the possibility of an excessive cumulative effect.

'Stelazine' Injection has been exceptionally well tolerated; there is little, if any, pain and irritation at the site of injection.

Dosage for Psychotic and Mentally Defective Children

The dosages given below apply to children, ages 6 to 12, who are either hospitalized or under adequate supervision.

oral: The starting dosage is 1 mg. administered once a day or b.i.d., depending on the size of the child. Dosage may be increased gradually until symptoms are controlled or until side effects become troublesome. Both the rate and the amount of dosage increases should be carefully adjusted to the size of the child and the severity of the symptoms, and the lowest effective dosage should always be used. Once control is achieved, it is usually possible to reduce dosage to a satisfactory maintenance level.

In most cases, it is not necessary to exceed 15 mg. of 'Stelazine' daily. However, some older children with severe symptoms may require, and be able to tolerate, higher dosages.

intramuscular: There has been little experience with the use of 'Stelazine' Injection in children. However, if it is necessary to achieve rapid control of severe symptoms, 1 mg. (½ cc.) of 'Stelazine' may be administered intramuscularly once or twice a day, depending on the size of the child. Once control is achieved, usually after the first day, the oral dosage forms of 'Stelazine' should be substituted for the Injection.

SIDE EFFECTS: *In the dosage range of 2-4 mg. daily,* side effects from 'Stelazine' are infrequent. When they do occur, they are usually slight and transitory. Mild drowsiness occurs in a small percentage of patients; this usually disappears after a day or two of 'Stelazine' therapy. There are occasional cases of dizziness, mild skin reaction, dry mouth, insomnia and fatigue; rarely, neuromuscular reactions (extrapyramida symptoms).

In hospitalized psychiatric patients receiving daily 'Stelazine' dosages of 10 mg. or more, clinical experience has shown that, when side effects occur, their appearance is usually restricted to the first two or three weeks of therapy. After this initial period, they appear infrequently, even in the course of prolonged therapy. Termination of 'Stelazine' therapy because of side effects is rarely necessary.

Side effects observed include dizziness, muscular weakness, extrapyramidal symptoms, anorexia, rash, lactation and blurred vision. Drowsiness has occurred, but has been transient, usually disappearing in a day or two.

Extrapyramidal Symptoms

These symptoms are seen in a significant number of hospitalized mental patients receiving 'Stelazine'. They may be characterized by akathisia, be of the dystonic type, or they may resemble parkinsonism.

akathisia: Some patients may experience an initial transient period of stimulation or jitteriness, chiefly characterized by motor restlessness and sometimes insomnia. These patients should be reassured that this effect is temporary and will disappear spontaneously. The dosage of 'Stelazine' should not be increased while these side effects are present.

If this turbulent phase becomes too troublesome, the symptoms can be controlled by a reduction of dosage or the concomitant administration of phenobarbital or some other barbiturate.

dystonias: These symptoms are rare outside of mental hospitals, but they may be observed occasionally in patients who have received 'Stelazine' as a mild tranquilizer.

Symptoms may include: spasm of the neck muscles, sometimes progressing to torticollis; extensor rigidity of back muscles, sometimes progressing to opisthotonos; carpopedal spasm, trismus, swallowing difficulty, oculogyric crisis and protrusion of the tongue.

The onset of the dystonias may be sudden. A primary characteristic of these symptoms is their intermittency. They may last several minutes, disappear and then recur. There is typically no loss of consciousness and definite prodromata are usually present. Initially, these intermittent symptoms occur in a crescendo of intensity. Then as the effect of the drug wears off, the intervals between the occurrence of symptoms become longer, and the intensity of the symptoms subsides.

Despite their similarity to symptoms of serious neurological disorders, these dystonias are usually promptly reversible and need not cause undue alarm. They usually subside gradually within a few hours, and almost always within 24 to 48 hours, after the drug has been temporarily discontinued.

Treatment is symptomatic and conservative. *In mild cases,* reassurance of the patient is often sufficient therapy. Barbiturates are also useful. *In moderate cases,* barbiturates will usually bring rapid relief. The dosage and route of administration of the barbiturate used should be determined by the intensity of the symptoms and the response of the patient. *In more severe adult cases,* the administration of an anti-parkinsonism agent produces rapid, often dramatic, reversal of symptoms. Also, intravenous caffeine and sodium benzoate seems to be an effective and rapid antagonist to the dystonias. *In children,* reassurance and barbiturates will usually control symptoms. Dosage and route of administration should be determined according to the intensity of symptoms and response of patient.

Note: It has been reported that injectable administration of Benadryl* may also be helpful in controlling dystonias.

pseudo-parkinsonism: These symptoms are extremely rare outside of mental hospitals.

Symptoms include: mask-like facies; drooling; tremors; pillrolling motion; and shuffling gait.

Reassurance and sedation are important components of effective therapy. In the majority of cases these symptoms are readily reversible when an anti-parkinsonism agent is administered concomitantly with 'Stelazine'. Occasionally it is necessary to lower the dosage or to temporarily discontinue the drug.

CAUTIONS: Clinical experience has demonstrated that 'Stelazine', a phenothiazine derivative, has a wide range of safety and that there is little likelihood of either blood or liver toxicity. The physician should be aware, however, of their possible occurrence.

One of the results of 'Stelazine' therapy may be an increase in mental and physical activity. In some patients, this effect may not be desired. For example, although 'Stelazine' has relieved anxiety and, at the same time, anginal pain in patients with angina pectoris, a few such patients have complained of increased pain while taking 'Stelazine'. Therefore, if 'Stelazine' is used in angina patients, they should be observed carefully and, if an unfavorable response is noted, the drug should be withdrawn.

Hypotension has not been a problem, but nevertheless adequate precautions should be taken when the drug is used in patients with impaired cardiovascular systems.

The antiemetic action of 'Stelazine' may mask signs of overdosage of toxic drugs or may obscure the diagnosis of conditions such as intestinal obstruction and brain tumor.

Although 'Stelazine' has shown very little potentiating activity, caution should be observed when it is used in large doses in conjunction with sedatives or depressants.

CONTRAINDICATIONS: 'Stelazine' is contraindicated in comatose or greatly depressed states due to central nervous system depressants.

AVAILABLE: Tablets, 1 mg. and 2 mg., in bottles of 50, 500 and 5000. (Each tablet contains 1 mg. or 2 mg. of trifluoperazine as the dihydrochloride.) Also available, for psychiatric patients who are hospitalized or under close supervision: **Tablets,** 5 mg. and 10 mg., in bottles of 50, 1500 and 5000. (Each tablet contains 5 mg. or 10 mg. of trifluoperazine as the dihydrochloride.) **Injection,** 10 cc. Multiple-dose Vials (2 mg./cc.), in boxes of 1 and 20. (Each cc. contains, in aqueous solution, 2 mg. of trifluoperazine as the dihydrochloride, 4.75 mg. of sodium tartrate, 11.6 mg. of sodium biphosphate, 0.3 mg. of sodium saccharin, and 0.75% of benzyl alcohol.) **Concentrate** (for hospital use), 2 fl. oz. bottles (10 mg./cc.), in boxes of 4 and 12. (Each cc. contains 10 mg. of trifluoperazine as the dihydrochloride.)

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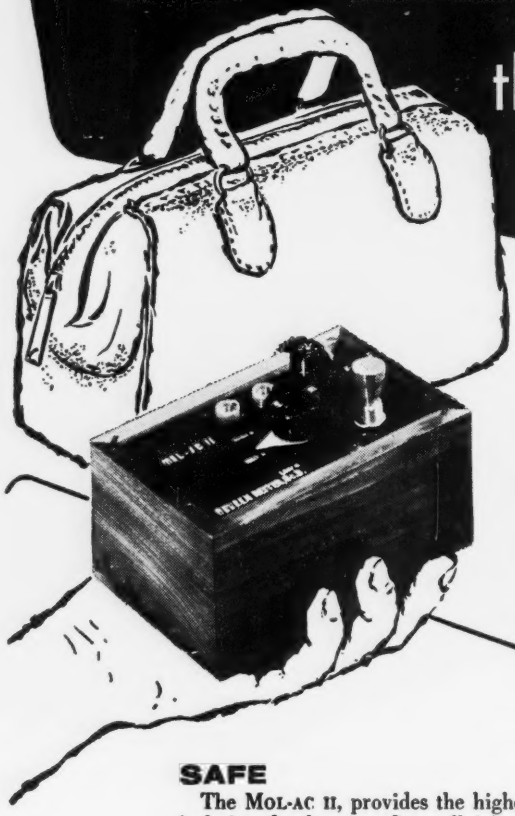

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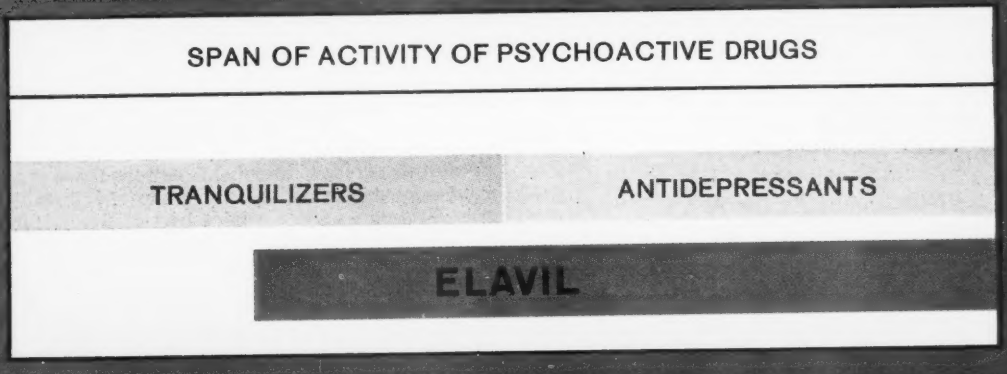

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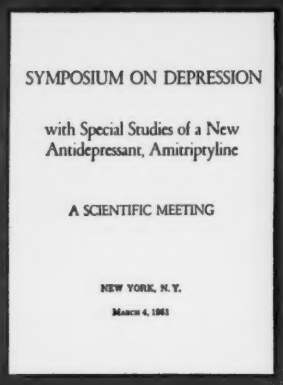
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EXCERPTS FROM A SYMPOSIUM ON DEPRESSION

ELAVIL

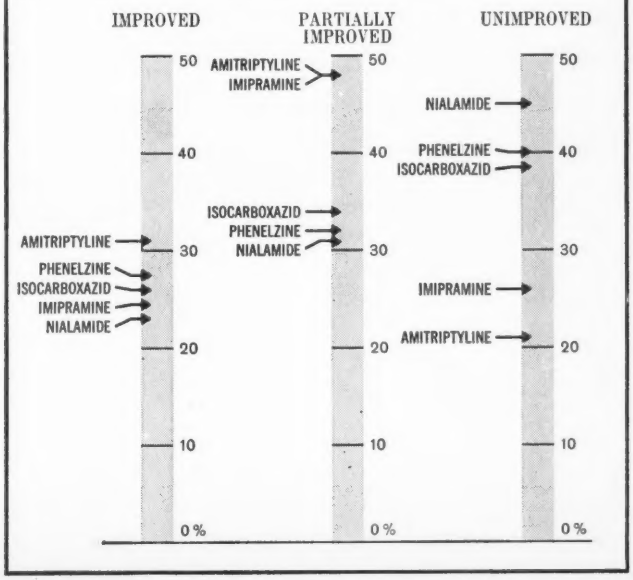
AMITRIPTYLINE HYDROCHLORIDE

INVESTIGATOR	FINDINGS
DUNLOP, EDWIN: The treatment of depression in private practice.	"Amitriptyline [ELAVIL] has a specific advantage over any antidepressant currently available and I see increasing evidence of its usefulness in reducing tension, agitation and anxiety, as well as in relieving the depressive quality of the illness. Amitriptyline appears ... to combine better than any other antidepressant drug the successful treatment of anxiety at one end of the scale and depression at the other. Experience in the past has shown us that, when using electroshock or analeptics, although depression can be relieved, the accompanying anxiety eventually proves more troublesome than the depressive phase of the illness. Amitriptyline successfully bridges these divergent symptoms which are displayed in varying proportions in all depressive syndromes. "... Approximately one hundred and twenty patients have been studied with amitriptyline during the last fifteen months. It is an effective antidepressant when employed in both hospital and ambulatory patients. Its dependability and freedom from toxicity and severe side effects merit further evaluation on a broader spectrum of depressive disorders."
BENNETT, DOUGLAS: Treatment of depressive states with amitriptyline.	"In those cases showing a good response, early and dramatic improvement in sleeplessness resulted and many patients noted a feeling of relaxation. The ability of some patients to reduce their night sedatives after only a month's treatment was unique in my experience of the treatment of depression."
SAUNDERS, JOHN C.: Antidepressives: the pith of affective therapy.	"Its primary action in hospitalized psychotics is antidepressive; this along with its very low rate of side actions make it a drug of potentially frequent application in a broad spectrum of neuropsychiatric diseases.... Since a large part of any hospital population will reach a plateau if given only a tranquilizer or an energizer, we suggest that amitriptyline alone be given prior to combination therapy, as this drug is easier and safer to administer and produces a significant improvement in a high percentage of cases (60-75)."
OSTFELD, ADRIAN M.: Effects of an antidepressant drug on tests of mood and perception.	"Finally, it appears that amitriptyline in the doses employed here is relatively effective in depressed states of neurotic proportions. Its freedom from severe side effects in doses that are therapeutically effective seems established in this patient population."

(This symposium was published in Diseases of the Nervous System, Volume 22, Section Two—Supplement, May 1961)

INVESTIGATOR	FINDINGS
AYD, FRANK J., JR.: A critique of antidepressants.	"Amitriptyline and imipramine induce similar side effects but, generally speaking, those of amitriptyline cause less subjective discomfort in patients than those of imipramine. "... Many of the factors that favor a satisfactory response to these drugs are also those clinically associated with the expectation of a good reaction to ECT. The danger lies in their general slowness in taking effect which makes their use hazardous for severely depressed suicidal patients who, preferably, should be treated with electroshock therapy. Otherwise, these compounds can be a satisfactory substitute for shock therapy for most depressed patients. Thus, these drugs have lessened the need for ECT. On those occasions when ECT is necessary, if the shock therapy is combined with an antidepressant, ECT can be dispensed with after a few treatments."

COMPARISON OF THERAPEUTIC RESULTS WITH VARIOUS ANTIDEPRESSANTS



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EXCERPTS FROM A SYMPOSIUM ON DEPRESSION (continued)

ELAVIL

AMITRIPTYLINE HYDROCHLORIDE

INVESTIGATOR	FINDINGS
DORFMAN, WILFRED: Masked depression.	"In evaluating the effectiveness of amitriptyline in all these different settings, it was considered to be effective in 17 of the 25 patients (68%)."
FELDMAN, PAUL E.: Psychotherapy and chemotherapy (amitriptyline) of anergic states.	"Compared to other energizer compounds, particularly the hydrazines, amitriptyline appears to be relatively nontoxic. The laboratory reports for the most part remained within normal limits. Occasionally, abnormal readings were reported, but these appeared only sporadically and were not related to any clinical findings."

INDICATIONS: manic-depressive reaction—depressed phase; involutional melancholia; reactive depression; schizoaffective depression; neurotic-depressive reaction; and these target symptoms: anxiety; depressed mood; insomnia; psychomotor retardation; functional somatic complaints; loss of interest; feelings of guilt; anorexia. May be used whether the emotional difficulty is a manifestation of neurosis or psychosis,[1] and in ambulatory or hospitalized patients.[1,2,3]

USUAL ADULT DOSAGE: Tablets – initial dosage 25 to 50 mg. three times a day, depending on body weight, severity, and clinical disturbances. Dosage may be adjusted up or down depending upon the response of the patient. Some patients improve rapidly, although many depressed patients require four to six weeks of therapy before obtaining antidepressant response. For the ambulatory patient the dosage range for Tablets ELAVIL is 40 to 150 mg. daily. In the hospitalized patient, a daily dosage up to 300 mg. may be required. Injection ELAVIL may be given IM to rapidly calm depressed patients with symptoms of anxiety and tension while instituting therapy of the underlying depression. Initial therapy is 2 to 3 cc. (20 to 30 mg.) IM, q.i.d.

The natural course of depression is often many months in duration. Accordingly, it is appropriate to continue maintenance therapy for at least three months after the patient has achieved satisfactory improvement in order to lessen the possibility of relapse, which may occur if the patient's depressive cycle is not complete. In the event of relapse, therapy with ELAVIL may be reinstituted.

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DISEASES *of the* Nervous System

A PRACTICAL JOURNAL ON PSYCHIATRY AND NEUROLOGY

Do Our Hospitals Help Make Acute Schizophrenia Chronic?

NATHANIEL S. LEHRMAN, M.D.

This paper offers the hypothesis that at times some of our psychiatric hospitals may inadvertently have an antitherapeutic effect on patients, thereby tending to make some acute schizophrenic reactions chronic. It will attempt to indicate how this process may take place, and will suggest certain procedural and attitudinal changes to prevent or correct it.

The Susceptibility of the Acute Schizophrenic

Acute schizophrenia is usually characterized by symptomatology which is both florid and fluid. Relatively small stimuli during periods of acute illness and intense agitation tend to elicit large responses. While every human being is constantly responding to the circumstances in which he finds himself, the acute schizophrenic, by virtue of his lability and instability, seems particularly sensitive to the influences impinging on him at any given moment.

Dollard and Miller[1] have suggested that in mental illness, "the progression from an initial profusion of variable symptoms to fewer constant ones is the result of differential reinforcement." Similarly, it appears that the progression from acute to chronic schizophrenia in our hospitals may also be the result of unconscious differential reinforcement of chronic schizophrenic responses by the total hospital environment. For each patient this environment can be seen as having a specific medical and a general social aspect.

The Role of the Physician

The physician plays a significant role in facilitating certain responses from his patients and inhibiting others. While this is true in all branches of medicine, it is perhaps most significant in the psychiatry of functional mental illness, where no independent organic processes have been demonstrated whose presence alone might be responsible for symptoms.

Balint[2] has described clearly the physician's role in the reinforcement of the symptoms of "nervous" patients. He points out how such troubled patients come to their family doctors "offering" a particular symptom or response. This tends to be retained if the doctor considers it important, but tends to be dropped, with another symptom sometimes offered instead, if the doctor is unresponsive. Balint writes:

> "Some people, who, for some reason or other, find it difficult to cope with the problems of their lives resort to becoming ill. If the doctor has the opportunity of seeing them in the first phase of their becoming ill, i.e. before they settle down to a definite 'organized' illness, he may observe that these patients, so to speak, *offer or propose various illnesses,* and that they have to go on offering new illnesses until between doctor and patient an agreement can be reached, resulting in the acceptance by both of them of one of the illnesses as 'justified.' In some people, this 'unorganized' state is of short duration, and they quickly settle down to 'organize' their illness; others seem to persevere in it, and although they have partly organized their illness, they go on offering new ones to their doctors. The variety of illnesses available to any one individual is limited by his constitution, upbringing, social position . . . etc."

If we substitute the words "symptom" or "behavior" for the word "illness" in the above discussion, we have a reasonably accurate picture of what occurs between an acute, hospitalized schizophrenic and his doctor. The patient presents a welter of troubling thoughts and feelings to his doctor, who tends to select out only some of them for more detailed investigation. If the

physician's primary orientation is diagnostic, he will tend to be more concerned with those responses which have a bizarre flavor, such as hallucinations or delusions. The fact that the doctor selects these particular responses for scrutiny will underline their significance to the patient. The latter may then tend to become more anxious, as well as more aware of, and disturbed by, what might have been relatively minor incorrect thoughts or feelings. If the doctor does not explain to the patient that symptomatology of this kind can be understood—e.g. by suggesting that these incorrect, pathological responses may be the panic-produced responses to unresolved conflictual stimuli—the patient, knowing this symptomatology is "crazy," will easily become even more frightened by the greater attention being paid to it.

Several years ago, this author attempted an experiment at a large municipal psychiatric hospital. There was little active treatment at the hospital then; primary emphasis was placed on diagnostic labeling. Although it was not clearly appreciated at the time, the diagnosis of "psychosis" seems to have been made by the *fact* of the patient's admission to the ward; the "diagnostic problem" of the physicians was primarily to decide *which* psychotic diagnosis was to be given the patient to justify his transfer to a state hospital.

The purpose of the experiment was to determine the effect on the patients of a consciously harsher attitude taken by the doctor. Not surprisingly, it was found that a stern, cross-examining attitude made it far easier to elicit psychopathology, and thus to justify a diagnosis of psychosis. If, for example, patients admitted "strange experiences," they were repeatedly prodded, beetle-browed, as to their absolute certainty that they had not been having hallucinations. If an affirmative reply was elicited by such inquisitorial tactics, a rather shame-faced sense of victory was sometimes experienced by the physician at having clinched the diagnosis.

This approach, quite different from the examiner's usual manner, was attempted with about half a dozen patients. Although it was noted that psychopathology could be elicited far more quickly, it was also found that the patients seemed far more disturbed after such interviews than they had been before, or than they had been after interviews conducted in the examiner's usual friendly fashion. It seemed apparent that this grilling method of questioning was harmful to the patients and it was abandoned.

Yet, this same kind of inquisitional procedure may still go on unknowingly between some harried state hospital doctors, pressed to get a diagnosis down on paper, and their patients. A patient looks for help from a physician, and expects to comply with his wishes in order to get it. If the doctor implicitly suggests, as in the experiment described, that the patient is "insane," and this suggestion is accompanied by considerable psychological pressure, the patient will be under strong pressure to respond in the apparently-expected fashion. But if the patient's response is a self-belittling one, as it would be in this case, considerable inner turmoil can be the result.

The Role of the Hospital Milieu

In large state hospitals, the role of the hospital milieu may be even more important in reinforcing schizophrenic responses than the unconscious anti-therapeutic activities of physicians. The most important anti-therapeutic effect of the hospital atmosphere may result from its reinforcement of passive, "troublelessness" responses. While such passive responses are far easier for overworked hospital staffs to handle in the short run, they tend to sap the patient of his self-esteem and his self-assertiveness at the very time that he needs them most: immediately after a panic-produced emotional disorientation, i.e., an acute schizophrenic episode.

Awareness is growing of the extent and the manner in which inconsiderate hospital routines may aggravate mental illness. Macmillan[3] has stated:

"Many of the symptoms which we had formerly regarded as due to the psychosis were in fact due to the restrictions which we had imposed on the

patients, and disappeared with the removal of these restrictions. . . . The resentment and feeling of injustice which certification causes in the mind of the patient is intense, and it lasts for many years. When patients are in a state of emotional upset, when their self-confidence is already seriously undermined and disturbed, to deprive them of civil rights depletes that stock of self-confidence even more at this critical phase of their life. One can hardly imagine anything more likely to upset them. The depressed patient becomes more depressed. The delusional become more fixed in their reactions and consider that they have justification for them. Withdrawal symptoms become more pronounced."

Hunt[4] summarizes the viewpoint that hospitals sometimes tend to augment pathology.

"Much disability in mental illness is (considered by some to be) artificially superimposed . . . treatable and . . . preventable. Disability is in large part artifact of extrinsic origin. . . . Much disability associated with psychotic illness is not part of the illness as such . . . (certain social) attitudes (may) lead to rejection and extrusion of the deviant individual. This extrusion cuts off the individual from opportunities to develop skills and results in atrophy of skills already possessed. This loss of potential skills for living constitutes an artificially produced disability. . . . Macmillan and Rees . . . have shown beyond question that much of the aggressive, disturbed, suicidal and regressive behavior of the mentally ill is not necessarily or inherently part of the illness as such, but is very largely an artificial by-product of the way of life imposed upon them. . . . Our modern standard practices may be almost as brutalizing and degrading as those which Pinel abolished."

These modern standard practices, and the details of their impact upon the patient, are the subject of Goffman's distinguished researches.[5] He has written:

"Once (the patient) begins to settle down (in the hospital) the main outlines of his fate tend to follow those of a whole class of segregated establishments—jails, concentration camps, monasteries, work camps and so on—in which the inmate spends the whole round of life on the grounds, and marches through his regimented day in the immediate company of a group of persons of his own institutional status. Like the neophyte in many of these 'total institutions,' the new inpatient finds himself cleanly stripped of his accustomed affirmations, satisfactions and defenses, and subjected to a rather full set of mortifying experiences: restricting of free movement, communal living, diffuse authority of a whole echelon of people, and so on. Here one begins to learn about the limited extent to which one's conception of one's self can be sustained when the usual setting of support for it are suddenly removed.

"While undergoing these humbling moral experiences, the inpatient learns to orient himself in terms of the 'ward system.' In public mental hospitals this usually consists of a series of graded living arrangements built around wards, administrative units called services, and parole status. . . . For disobeying the pervasive house rules, the inmate will receive stringent punishments expressed in terms of loss of privileges; for obedience he will eventually be allowed to reacquire some of the minor satisfactions he took for granted on the outside. . . . The ward system, then, is an extreme instance of how the physical facts of an establishment can be explicitly employed to frame the conception a person takes of himself. . . .

"Each moral career, and behind this, each self, occurs within the confines of an institutional system, whether a social establishment such as a mental hospital or a complex of personal and professional relationships. *The self, then, can be seen as something that resides in the arrangements prevailing in a social system for its members.*" (Perhaps "role" would be a better term than self—NSL.) "The self in this sense is not a property of the person to whom it is attributed, but dwells rather in the pattern of social control that is exerted in connection with the person by himself and those around him. *This special kind of institutional arrangement does not so much support the self as constitute it.*" (Italics mine—NSL.)

Psychiatric or Democratic Institutions

It is rather noteworthy how apathetic this submissive, institutional schizophrenic "self" is. Mental health involves "the continuation of constructive activity and organismic growth," writes Menninger,[6] and this requires that an individual have the courage of his own convictions. Too often, the mental hospital may undermine this courage by making the psychiatrist the unquestioned expert on the moral value of everything.

Such a fundamental conflict between his American democratic heritage and the autocratic institutional realities thus imposes an additional stress on the acute schizophrenic patient at a time when he is least able to cope with it. Are his physicians healers or jailors? Sometimes they speak like the former and act like the latter. The lack of clarity resulting from this conflict serves only to make patients increasingly confused, and to foster the apathetic "troublelessness" responses of chronic schizophrenia.

Patients sense the inconsistencies in the hospital atmosphere, and at times rebel blindly against them. Such rebellion, although incorrect overall, may indicate the presence of a spark of healthy self-esteem in the patient. But in hospitals, such rebellion is usually treated far more punitively than is the apathy of the back-ward hebephrenic. Since there is usually insufficient staff to help the patient to see the healthy aspect of his incorrect rebellious behavior, he begins increasingly to see life as presenting a choice only between punishable defiance and relatively painless apathy. The latter response tends often, in consequence, to be chosen.

The fluidity of the acute schizophrenic response, and the great sensitivity of the acute schizophrenic patient to external stimuli have been mentioned. Once a response is established, however, it is harder to eliminate. As Dollard and Miller[1] point out:

". . . if the progression from an initial profusion of variable symptoms to fewer constant ones is the result of differential reinforcement . . . then we would expect these later symptoms to be harder to eliminate because they had received more rewarded practice. This is apparently exactly what happens: Grinker and Spiegel report that 'treatment of war neuroses becomes more difficult as time goes on,' and this is indeed the general clinical experience. . . . If the symptom is learned by reinforcement, we would expect any additional reinforcements that are received to increase its strength and make it harder to eliminate. This expectation is confirmed by the well-known fact that secondary gains, such as pensions, that are dependent upon a symptom make it harder to get rid of that symptom."

Are Schizophrenics a Biological Subspecies?

It may be suggested that the autocratic quality of some psychiatric hospitals exists because the patients are so sick. It may be contended that schizophrenic human beings differ in some unknown essential way from other human beings. Perhaps this difference lies in some still-undefined biological or genetic factor which makes the schizophrenic less capable than the rest of us in handling stresses. A logical end-point of this position, which is usually not stated, is that the schizophrenic should be considered some kind of slightly subhuman subspecies. This viewpoint is strongly disagreed with by Menninger.[6]

Whichever viewpoint is taken, however, it seems clear that all humans, whether or not they are schizophrenic, learn from experience and are affected by their environments. Irrespective of one's personal position on the "essential nature" of schizophrenia, it seems likely that patients suffering with it can be harmed by hospital treatment which promotes "troubleless" reorganizations of the personality.

Certain changes which would improve situations such as those just described are worthy of consideration. The first would involve a conscious attempt to shorten the duration of psychiatric hospitalization and hence the exposure of the patient to the authoritarian atmosphere of the hospital. A second might be a fuller recognition of the extent to which the therapeutic atmosphere of an institution is determined at its very top. A third might be a re-evaluation of the role and function of the patient's family, and of the methods hospitals have evolved of dealing with them. Each of these suggestions will be discussed briefly.

The longer patients remain in the hospital, no matter how comfortable or psychotherapeutic that hospital may be, the poorer do their chances appear to be for ever returning to useful functioning. This has been suggested statistically for several differently diagnosed groups,[7] although it has not been demonstrated statistically with schizophrenics. Consideration of the sociological interactions described above, however, suggest that conscious attempts to reduce the duration of hospitalization should be made. Perhaps a period of a few weeks should be considered the optimal period for psychiatric hospitalization, and patients who remain beyond this time should be considered as treatment failures, warranting the same detailed investigation as accidental deaths.

A second area for possible change in some hospitals lies in recognizing more fully that the therapeutic atmosphere of a hospital, like the morale of a military establishment,

is determined primarily at its very top. Almost all top administrators are already aware of this fact, although sometimes this awareness may be intuitive rather than explicit. A superintendent's courage, honesty and humanity, his recognition that his patients are really his brothers, can percolate down to every ward attendant. A superintendent with a deep sense of worth in himself, and pride at being able to help his fellow man, can be a noble example to his entire staff.

A third area for possible change lies in reevaluating the relationship of the hospital to the patient's family. Sometimes a hospital's rigid exclusion of the patient's entire family, his main source of interpersonal support, may tend to widen the gap between them. The patient is made to feel deserted at the time he believes he needs their help most. While temporary physical separation of a patient from his family is often necessary, an emotional chasm between them should, in general, not be allowed to develop. But such chasms do sometimes appear. One cause is that some busy physicians tend to see relatives as rather annoying nuisances. Another is the practice of having a different individual, e.g. a social worker, see the family while the doctor deals only with the patient. This may tend to further the divisive, and therefore anti-therapeutic, effect on the people concerned.

Direct responsibility for the entire family unit, one of whose members is ill, might well be vested in one individual—the physician. Macmillan[3] points out that in his experience, "the interpersonal relationship between the patient and the members of the family was a most important factor which required treatment. That is to say adjustment of the attitude of the relative was often as important as treatment of the patient." It seems relatively elementary to suggest that this mutual adjustment process can be handled far more efficiently by one person than by several. However, dividing each family among psychiatrists, social workers and other professionals still seems to be the rule rather than the exception. Some aspects of treating the entire family have been discussed by Ackerman[8] and by the present author.[9]

Conclusion

Hypersensitive acute schizophrenics may be unconsciously led in an anti-therapeutic direction by authoritarian practices in some psychiatric hospitals. A number of the factors tending to produce this effect are discussed, and some specific recommendations for their improvement are offered.

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Directive Techniques In Conjunction with Psychotherapy with Children

WILLIAM H. TRAGLE, M.D., and JAMES N. SUSSEX, M.D.

Inherent in the unique authoritative role which tradition assigns to the physician is the expectation that he will prescribe corrective measures for unhealthy conditions. It is toward using this authority to better advantage in psychotherapy with children that this paper is directed.

The idea that this is possible is based on certain differences between psychotherapy with children and that with adults. The adult patient in psychotherapy is usually regarded as a free agent. Elements of his environmental situation which act as deterrents to therapy are frequently the result of his own pathologic maneuverings and therefore potentially modifiable by him. He has at hand, in other words, the means to create for himself, if he wants to, a situation favorable to therapy. If he cannot do so, this is in itself grist for the therapeutic mill. Furthermore, when the adult patient comes to the physician seeking help, it is on a voluntary basis and active participation on his part is, therefore, a natural expectation. It follows that the psychiatrist can reduce his own activity to a minimum and refrain from giving advice and directions or expressing value judgments.

The child patient in psychotherapy, on the other hand, is not a free agent. Whether or not he desires therapy, he is seldom in a position to modify his environment to facilitate it, even if he knew what modifications might be necessary. The scene is set by his parents, especially by his mother, and the power behind this stage manager consists of his mother's unconscious motivations and attitudes. It is the rule rather than the exception that a child coming for therapy is brought by a mother whose involvement with him is morbid, however healthy she may be in other areas of her emotional life.

If the mother's pathological involvement is so extensive that she cannot limit her area of concern about herself to her role of motherhood and its immediate ramifications, she may be a candidate for psychotherapy in her own right. If she is essentially healthy, however, except for the ways in which her own unresolved conflicts express themselves in her relationship with her child, then professional efforts with her may be directed primarily toward achievement of more adequate performance in her role as mother. In many clinical settings, the concept of the treatment team assigns this professional role to a social worker. In private practice with children, however, the more common pattern probably sees the psychiatrist wearing two professional hats: one that of therapist to the child and the other including elements of psychotherapist, case worker, counsellor and family physician. It is in the latter role that the psychiatrist can, if he believes it warranted, take a directive stand.

Even the most firm believer in non-directive or non-manipulative psychotherapy will admit the necessity for occasional direct intervention. Wolberg states this most pungently when he says, "The therapist may have to interfere actively where the environmental situation is grossly inimical to the best interests of the patient." In the matter under discussion it must be remembered that the *child* is the patient and that many a child in dire need of psychotherapy lives in an environment where factors grossly inimical to his best interests are operating. The child is not in a position to change them even if he recognizes them. The parent may not be able to change them either, at least not without a great deal of help. The psychiatrist, however, may be able to prescribe specific action on the part of the parents which will

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modify the child's environment in a way favorable to therapy.

Situations involving passive-aggressive behavioral patterns (as distinguished from the passive-aggressive personality trait disturbance as a diagnostic category) are frequently encountered in children brought for therapy. This pattern is reminiscent of that of the infant who, in order to have his dependency needs filled, must express his discomfort. He subsequently learns that by becoming uncomfortable himself, he can make those around him uncomfortable too, no matter how much larger and more powerful they may be. His own distress can then become a powerful means of expressing any hostility he may harbor without, however, his having to stand good for it as such. The feelings of anxiety, guilt, inadequacy, resentment and rejection engendered in the victim parent then serve as a foil on which the child can project his own hostility and thus further establish his position of innocence.

Fear can be a particularly effective kind of distress when utilized in such a fashion. A case in point is that of a child with a school phobia. It is now generally agreed that the first step to be taken in the management of such a case is to get the child back to school. If the school administration or other legally constituted power can accomplish this, so much the better for the psychiatrist who is then in a position to play his more usual role in relation to the child patient and his parents. If no other authority can make this requirement, however, it falls to the psychiatrist to do so. If he insists that the child return to school as a prerequisite to on-going therapy on the basis of professional validity rather than out of personal whim, he should not have to feel guilty. If the child does not return to school and the psychiatrist moves on into therapy with the child anyway, he not only fails to make a positive contribution toward resolution of the problem situation but may actually enhance the neurotic problem in both child and parent and the neurotic interaction between them.

This is not meant to imply that failure of the parents to follow the prescription to return the child to school should lead to wholesale rejection of the family by the psychiatrist. Rather, such failure in the case of parents sincerely interested in the welfare of their child reveals the degree to which they need assistance *before* the child can be regarded as ready to begin his own therapy. Obviously the child is not involved alone in such a neurotic pattern. His parents are involved with him. Their feelings about the prescribed action, whether or not they were able to follow it out, require exploration and acceptance in terms of the deeper meaning it has for them. Once that part of the situation which is inimical to the child's best interests, namely, his successful exploitation of the parental guilt in the form of absence from school, is removed by this prescriptive approach, the problems of both child and parents are available for resolution. Where this hasn't been done, therapy has typically proven long and uncertain with the child day by day consolidating his neurotically-gained stronghold.

Other problem situations are not so generally accepted as requiring or warranting such prescriptive action on the part of the psychiatrist. Many a wilful, demanding youngster and his tyrannized mother are locked in a hostile-dependent relationship to which both contribute from their individual psychopathologies and in which neither gains real satisfaction.

One such child, a six-year-old girl, had, among a multitude of other problem aspects of the history, been sleeping with her mother since infancy. The mother had made half-hearted attempts to break up this arrangement but long hours of wailing pleas of fright or occasional overt seductive behavior on the part of the child always brought about the original situation. In the meantime the child had become a tyrant in the household by day as well, complaining, demanding and withholding demonstrations of affection from her mother as a means of bribery or retaliation when she didn't get what she wanted. The mother became more and more distressed, but it was the day-time behavior which brought her determination to seek psychiatric help. The night-time behavior was reported in the initial exploratory interview, but there was no mention made of the sleeping arrangements until the question was asked specifically. The child was accepted for psychotherapy and the mother seen in parallel interviews geared to the orthodox idea of the nondirective approach. After six months of work, the

mother had explored and worked through enough of her own problems in relation to the child, especially the way in which the sleeping situation portrayed her use of the child to satisfy her own dependency needs, that she was able to transfer her daughter into her own bedroom. From that point on, the child, supported by her mother's new-found expectation that she grow up, began to make effective use of her own therapy.

In an almost exactly comparable case, the problem of sleeping arrangements was made the focus of discussion in a conference with the parents after the child had been seen for evaluation. The professional opinion given by the psychiatrist included the statement that no improvement was likely to occur soon, with or without psychiatric treatment, unless the present sleeping arrangement could be terminated and this move was presented as a prerequisite for accepting the child for therapy. The significance of this for the child was interpreted only broadly. The significance of the sleeping arrangements in terms of the maternal psychodynamics was interpreted not at all, but the mother's feelings about carrying out this prescription—her fears and doubts and reluctance—were pointed up specifically and accepted as entirely valid. Her inability to carry out the prescribed action was the topic for discussion in the next interview and her ambivalent feelings about the child began to be mobilized and tentatively expressed. By the next following interview she still had not been able to carry through the prescribed action, but by this time she could acknowledge that her own problem in relation to her child was making it possible for the child to exploit her and, therefore, was making it difficult or impossible for the child to give up this unsatisfying mode of relating. By the fourth visit after the conference in which the action had been prescribed, the mother was able to carry it through. Not until this point was the child's therapy begun. The mother's feelings of accomplishment on the one hand, and of doubt and misgiving on the other, provided the discussion material for her next several sessions and the child's feelings about what had happened at home was immediately reflected in her therapy hours. Movement thereafter was rapid.

A review of these two cases upon completion shows comparable improvement in the emotional health of the two children and in the general atmosphere prevailing in each home. In the first case therapy continued about fourteen months. In the second case, the family was ready to be on its own in five months.

Several other cases with similar dynamics operating, approached by one or the other of the two modes referred to, have shown comparable patterns in treatment. The degree of directiveness utilized has varied. At the lower end of the scale this has appeared largely as gentle persuasion or suggestion in such terms as, "This is what you might do." At a more authoritative level this becomes, "This is what you *should* do." At the prescriptive level, it becomes, "This is what you *must* do."

Certain difficulties are encountered at each level. In a totally non-directive approach, in which the parents are never told or advised what to do, it is relatively easy to remain accepting and non-judgmental. With each level of increase in imposition of authority, it is increasingly important for the psychiatrist to be firm in his expectations of the parents while at the same time maintaining the traditional psychotherapeutic willingness to deal with their ambivalent feelings. This poses additional problems for the psychiatrist because he needs to deal also with his own ambivalent feelings about taking a responsible, authoritative stand in the relationship. The role he plays has certain obvious resemblances to parenthood and certain of the difficulties are comparable. The dividends, however, are great in terms of seeing parents become capable of using their own authority responsibly in relation to their children.

In summary, we believe 1) that there is, in selected cases, a valid place in psychotherapy with children for a directive approach with their parents in the form of a prescribed action; 2) that such a prescribed action should be the removal or correction of some particular aspect of the environment which is regarded as inimical to the child's interests and as preventing his effective use of the therapeutic relationship; 3) that accomplishment of such a prescribed action can be regarded as a valid prerequisite for the child's therapy; 4) that such a prescription, whether or not it can be carried out immediately, tends to mobilize the feelings of the parents in a way helpful to doing necessary psychotherapeutic groundwork with them, preliminary to the child's beginning therapy; and 5) that this approach tends to shorten significantly the length of time psychiatric attention is necessary.

Content of Protein in Cisternal Fluid of Patients Admitted to a State Hospital

MAGNUS C. PETERSEN, M.D.

Since 1927 I have conducted studies of the cerebrospinal fluid of all patients admitted to three state hospitals in Minnesota with which I have been associated. At first the main objective of such studies was the diagnosis of neurosyphilis.[1,2] In the intervening years, as perhaps might be expected, there has been a steady decline in the incidence of neurosyphilis among the patients admitted to these hospitals. Thus, in the fiscal year ending June 30, 1959, only 10 of the 926 patients admitted to the Rochester State Hospital had syphilis of the central nervous system. In all 10 patients the condition was known to have existed before they were admitted. Therefore, the objective of the studies became unimportant, so far as detection of neurosyphilis was concerned. They were continued, however, because we noticed that an increase in the total protein content of the cerebrospinal fluid at times was encountered in patients who did not have syphilis. Since such increase is indicative of organic disease of the central nervous system or of generalized systemic disease, it often became an aid to distinction of such conditions from so-called functional disorders. At times an increase in the total protein content of the cerebrospinal fluid was the only clue which led to the diagnosis of expanding intracranial lesions.

Cisternal puncture was selected as preferable to lumbar puncture for the following reasons:

1. Headache after cisternal puncture is rare, whereas it is frequent after lumbar puncture;

2. The patient does not need to remain in bed after cisternal puncture, but can be up and about and carrying out his duties immediately after the procedure;

3. The patient fears cisternal puncture less than he does lumbar puncture, undoubtedly for the reasons set forth in 1 and 2; and

4. Since the needle penetrates the meninges above the rim of the foramen magnum, cisternal puncture is an intracranial procedure. The site of any lowering of intracranial pressure will be upward in relation to the cisterna magnum, eliminating the danger of herniation of the medulla or the tonsils of the cerebellum into the foramen. Such a danger always should be considered when lumbar puncture is performed, especially when the intracranial pressure is increased thereby.

Cisternal puncture has been performed more than 18,000 times by me or under my supervision. In the vast majority of cases I have done cisternal puncture myself. In every instance it was done without any consideration as to intracranial pressure. In fact, the procedure has been carried out even when we were aware that intracranial pressure was increased. In no case were there any untoward complications. Occasionally patients would mention slight stiffness of the neck, probably the result of meningeal irritation.

Between January 1, 1943, and March 8, 1960, cisternal puncture was done 11,252 times in the Rochester State Hospital. In most cases the procedure was done routinely as a part of the examination which all patients undergo shortly after they are admitted. In some cases, however, cisternal puncture was performed for patients already in the hospital. The procedure was carried out in 576 patients who had neurosyphilis, in the total of 11,252 punctures. Eliminating this group, there remain 10,676 punctures performed on 9531 patients who did not have specific disease. The ages of these patients ranged from 6 to 104 years. In the table the number of determinations of total protein in the cisternal fluid is presented, with results, and according to ages by decades.

Determinations of total protein were made in the Serology Laboratory of the

Section of Clinical Pathology of the Mayo Clinic, Rochester, Minnesota. The method was the same in respect to all tests, which were performed by the same group of technicians. These two factors have contributed significantly to the reliability of the results. The method basically consisted of the addition of cisternal fluid to sulfosalicylic acid and comparison of the turbidity with standards* containing known amounts of protein.

Normal values for the protein content of cisternal fluid generally are considered to be 10 to 25 mg. per 100 cc. of fluid. We arbitrarily set the figure of 35 mg. as the upper limit of normality, and usually repeated the puncture at a later date when that limit was exceeded. It will be noted in the table that 7.9 per cent of the tests yielded values above that limit. Since an increase in the protein content of the cisternal fluid is indicative of organic disturbance, performance of additional studies became imperative when such increases were encountered. Sometimes such studies revealed conditions requiring neurosurgical treatment which at times was lifesaving.

It will be noted that the percentage of tests which disclosed an increase in the content of total protein is considerably higher in the older age groups than it is in the younger. This indicates a higher incidence of organic involvement in the older than in the younger patients. It can be stated categorically that neither age itself nor uncomplicated arteriosclerosis causes an increase in the content of protein in the cisternal fluid.

The table also shows that in this series cisternal puncture was performed 2737 times on 2512 patients 70 or more years of

*Magar Chemical Company, Inc., Cornwall Landing 90, New York.

TABLE I

Values for Total Protein in Cerebrospinal Fluid Obtained by Cisternal Puncture According to Ages of Patients Admitted to the Rochester State Hospital (Minnesota). →

Age, years	Patients, total	Tests, no.	Total protein, → mg. per 100 cc. of cerebrospinal fluid																							
			-10		10		15		20		25		30		35		40		45		50		55-95		100+	
			No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent
0-9	4	5	0	0	0	0	2	40.0	2	40.0	0	0	0	0	1	10.0	0	0	0	0	0	0	0	0	0	0
10-19	369	402	4	1.0	184	45.8	89	22.1	64	15.9	28	7.0	7	1.7	11	2.7	2	.5	2	.5	2	.5	4	1.0	5	1.2
20-29	1057	1161	39	3.4	593	51.1	224	19.3	152	13.1	73	6.3	32	2.8	13	1.1	9	.8	7	.6	2	.2	9	.8	8	.7
30-39	1386	1567	56	3.6	805	51.4	301	19.2	222	14.2	74	4.7	46	2.9	20	1.3	12	.8	15	1.0	7	.4	5	.3	4	.3
40-49	1351	1541	46	3.0	719	46.7	301	19.5	231	15.0	98	6.4	51	3.3	28	1.8	21	1.4	15	1.0	2	.1	13	.8	16	1.0
50-59	1700	1700	34	2.0	672	39.5	349	20.5	295	17.4	106	6.2	88	5.2	38	2.2	25	1.5	25	1.5	11	.6	33	1.9	24	1.4
60-69	1379	1563	20	1.3	536	34.3	295	18.9	277	17.7	144	9.2	115	7.4	49	3.1	27	1.7	30	1.9	15	.8	42	2.7	15	1.0
70-79	1524	1676	12	.7	450	25.7	280	16.7	334	19.9	180	10.7	112	6.7	93	5.5	54	3.2	44	2.6	31	1.8	89	5.3	17	1.0
80-89	899	963	3	.3	165	17.1	158	16.4	184	19.1	95	9.7	93	9.7	88	9.1	42	4.4	41	4.3	25	2.6	56	5.8	15	1.6
90-99	88	96	0	0	18	18.8	12	12.5	11	11.5	15	15.6	6	6.3	6	6.3	6	6.3	3	3.1	2	2.1	15	15.6	2	2.1
100+	2	2	0	0	2	100.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	9531	10,676	214	2.0	4124	38.6	2011	18.8	1772	16.6	811	7.6	550	5.2	347	3.3	198	1.9	182	1.7	95	.9	266	2.5	106	1.0
Cumulative percentages				2.0		40.6		59.4		76.0		83.6		88.8		92.1		94.0		95.7		96.6		99.1		100

age without any untoward effect. As previously stated, the oldest patient was 104 years of age. This confirms results of earlier studies I have published[3] in which it was demonstrated that advanced age is not a contraindication to cisternal puncture. Hence, statements frequently found in the literature to the effect that age is a contraindication of cisternal puncture are not valid and should be ignored.

Mention should be made of the fact that a number of the patients of the teen ages and into the early twenties who were found to have an increase in the protein content of the cisternal fluid were received by transfer from institutions for the mentally deficient for special study or treatment of one type or another. My impression, based on these studies, is that the percentage of hospitalized mentally deficient patients who have an increase in the content of protein in the cisternal fluid is greater than that of hospitalized mentally ill patients. Results of large-scale systematic surveys of this type carried out in institutions for the mentally deficient might be even more valuable than we found them to be in the hospitals for the mentally ill.

An analysis of the histories of the patients found to have increased values for protein in cisternal fluid has been made and will be published elsewhere. For this reason no attempt will be made herein to discuss the causes of the increased protein content. Suffice it to say that the figures I have presented support the contention I have voiced over many years: that there are many unrecognized organic diseases, especially neurologic, in the population of state hospitals. This condition is perhaps even more prevalent in institutions for the mentally deficient. The existence of such organic diseases in the segments of population concerned illustrates the need for more neurologic studies of both the mentally ill and the mentally deficient. The situation presents a challenge to members of the staffs of the hospitals caring for patients in both groups.

Summary

Cisternal puncture has been performed more than 18,000 times by the author or under his supervision. Values for the total protein content in 10,676 specimens of cisternal fluid from 9531 patients admitted to a state hospital are tabulated according to age groups of the patients. In 7.9 per cent of the total number of determinations of total protein in the cisternal fluid the value was 40 mg. or more per 100 cc. of fluid.

In this series 2737 cisternal punctures were performed on patients ranging from 70 to 104 years old.

In many instances an increased protein content of the cisternal fluid was the only clue leading to the diagnosis of expanding intracranial lesions.

More neurologic studies of mentally ill and mentally deficient patients are advocated.

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High Dosage Hydroxyzine in Institutionalized Mental Patients

ANTHONY LAPPOLA, M.D., and JESUS IBERRA, M.D.

About one year ago a study was made on the use of hydroxyzine in hospitalized female psychotic patients, and results were reported.[1] The present study of the use of hydroxyzine in high doses was made on hospitalized ambulatory male patients at Atascadero State Hospital (California). All these men were classified as psychotic and had been legally committed as being insane at the time of commission of a crime or at the time of trial. Some had been sent to Atascadero from other state hospitals because they were institutional problems. Others were received from state prisons because they were mentally ill at the expiration of their sentence and needed further hospitalization. Most of these patients were considered "security risks" because they had displayed assaultive and dangerous behavior and had been in frequent trouble at this hospital or at referring institutions. These patients were maintained on four "maximum custody wards. They had not responded to other therapies and were management problems in the hospital.

The original study in females using high dosage hydroxyzine indicated beneficial results. It was therefore hoped that hydroxyzine would prove of value in these problem patients. The study was to corroborate our original findings as to the effectiveness and safety of high dosage hydroxyzine (Atarax) in institutionalized psychotic patients. The trial extended over a period of three months beginning in November 1960 and terminating January 1961, with an average of 62 days treatment for each patient.

Materials and Methods

Patients

The study group consisted of 25 male psychotic patients in ages ranging from 19-61 years. Table I indicates the number of patients in the various age groups.

TABLE I
Age Distribution of Patients

Age Group	No. Pts.
15-20	1
20-29	12
30-39	4
40-49	4
50-59	3
60-70	1
	25

Diagnoses are summarized in Table II.

TABLE II
Summary of Diagnoses of Patients

Diagnoses	No. Pts.
SCHIZOPHRENIC REACTION—ACUTE	
Acute Undifferentiated Type	2
Acute Affective Type	1
SCHIZOPHRENIC REACTION—CHRONIC	
Paranoid Type	10
Catatonic Type	3
Undifferentiated	4
Simple	1
Mixed	1
SOCIOPATHIC BEHAVIOR—CHRONIC	1
ACUTE BRAIN SYNDROME WITH PSYCHOTIC REACTION	2
	25

Symptoms varied from acute anxiety and depression to aggressive, compulsive and assaultive behavior. Most patients were agitated much of the time prior to treatment. Many "incidents" were reported with each patient because of frequent uncontrollable and undesirable behavior. All patients showed psychotic symptoms, such as delusions, hallucinations and affective reactions, with unrealistic and unacceptable behavior and illogical thinking. Many patients had been hospitalized for long periods of time before their admission to Atascadero. The average length of hospitalization was 6.2 years. The shortest period of hospitalization was 6 months.

From Camarillo State Hospital, Camarillo, California, and Atascadero State Hospital, Atascadero, California.

Of the 25 patients 13 had received other drugs for periods of 90 days to two years. These drugs included prochlorperazine, chlorpromazine, trifluoperazine and thioridazine. Responses to these drugs ranged from poor to fair.

Dosage

All patients were begun on 500 mg. hydroxyzine once daily. In most cases medication was gradually raised in increments of 500 mg. at predetermined intervals.

Table IV indicates the various dosages given.

TABLE IV

Dosages Given During Study

Dosage of Hydroxyzine	No. Pts.	Duration (Days)
500 mg. q.i.d.	6	54-77
500 mg. t.i.d.	16	27-84
500 mg. b.i.d.	2	52-67
500 mg. daily	1	75

Medication was increased once a week if the patients tolerated prior dose without serious side-effects. Each dose was increased by 500 mg.

Results

Hydroxyzine produced beneficial results in 14 patients; of these, 12 were judged "good" responses and two were judged "fair" responses. Eight of the 14 patients were moved to the "better" wards where they continued to make a good ward adjustment. All these patients became very cooperative, less hostile and were in good contact. They abandoned their psychotic symptoms of delusions and hallucinations and were quiet and less "pesty." Those who had suicidal thoughts no longer displayed them and did not speak overtly of suicide. All these patients were able to, and did accept work assignments on the ward and in "off-ward" details. Where the drug proved effective, the onset of response, in terms of control or of remission of target symptoms, occurred as early as seven days and as late as 32 days following initiation of hydroxyzine therapy.

The treatment produced "poor" or no results in 11 patients. These remained as they had been before treatment with hydroxyzine was instituted.

Side Effects

Two patients experienced side effects. Mild dizziness occurred in one patient, but this disappeared following two weeks of continued treatment. Another patient receiving 500 mg. hydroxyzine t.i.d., had convulsions on the 27th day of treatment. After medication was discontinued, convulsions subsided and did not recur. An EEG showed a normal pattern at the time of the convulsions.

Though laboratory studies were not performed, there was never any overt evidence of kidney or liver damage, blood dyscrasias, or other idiosyncrasies in any patient.

Summary and Conclusion

Twenty-five male psychotics—hostile, difficult, legally-insane and institutionalized patients—received total daily dosages of hydroxyzine ranging from 500 to 2,000 mg. for an average of 62 days. Improvement great enough to make these patients cooperative, manageable, and amenable to personal contact occurred in 14 men, 56 per cent of those treated. No change was seen in the other 11 patients. One patient developed dizziness which later disappeared, and one patient displayed a convulsion which did not recur when the medication was discontinued.

Results such as these in severely psychotic patients quartered in maximal custody wards are judged to be very favorable. These findings amply corroborate those reported by one of us in an earlier study of hydroxyzine in high dosages in institutionalized psychotics.

Author's Note: Atarax (hydroxyzine hydrochloride) is a product of J. B. Roerig and Company, Division, Chas. Pfizer & Co., Inc., New York, N. Y.

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Taractan (Chlorprothixene) as a Neuroleptic Drug in Clinical Psychiatry

HEINRICH GROSS, M.D., and ELFRIEDE KALTENBAECK, M.D.

An important clinical use of modern psychotropic drugs is based on the prompt sedation afforded in psychomotor agitation characterized by anxiety and tension, hallucinations, manic depression and delirious confusion. Indeed, these new drugs have not only replaced to a great extent the classical methods of shock therapy, but they have also been responsible for the creation of a more restful hospital atmosphere important for the recovery of psychiatric patients. Psychotropic drugs particularly suitable for sedation in states of agitation we have designated as *basal neuroleptics,*[1-4] because following their initial use, other drugs more suitable for prolonged therapy may be employed. After successful initial sedation, every patient with an endogenous psychosis becomes a suitable subject for prolonged neuroleptic therapy.

An ideal basal neuroleptic compound should have the following properties:

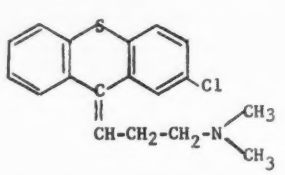
1. Ability to suppress psychomotor agitation promptly and reliably for several hours after each dose. (At this stage, a concurrent hypnogenic effect is desirable.)
2. Good local tolerance upon injection and high potency even in small amounts of the ampul solution, since in our experience adequate sedation is practicable only by the parenteral route. Gluteal infiltrations are painful and are therefore undesirable.
3. Sedation undistubed by counter-regulatory phenomena of turbulence, psychic agitation and excitomotor manifestations.
4. Freedom from vasomotor disturbances tending to orthostatic collapse.
5. Absence of other side effects and allergic reactions among the nursing personnel.

Until recently no basal neuroleptic with all these advantages was available. Among the phenothiazines, chlorpromazine, the most often used, has a number of disadvantages: First, it does not always afford adequate initial sedation, and must therefore be administered in high doses in a large volume of ampul solution, causing painful gluteal infiltrations. Second, it produces unpleasant allergic skin and mucosal reactions, especially among the female nursing personnel. Third, it is known to produce orthostatic collapse.

Reserpine has a stronger sedative effect but its onset of action is slower. Initially, it often produces states of excitation with excitomotor symptoms. It also increases the depressive symptomatology. Chlorperphenazine, as was recently shown by Gross, Frühmann and Kaltenbaeck,[4] produces adequate basal sedation but lacks appreciable hypnogenic action; it exerts the same side effects as reserpine, though less frequently. Thioridiazine cannot be administered parenterally, and thus is unsuitable as a basal neuroleptic. Levomepromazine, which exerts a good but not consistently adequate sedative effect, is frequently responsible for painful infiltrations, vasomotor disturbances with tachycardia, and hyperthermia.

Taractan is a derivative, not of phenothiazine, but of thioxanthene. It is the transisomer of 2-chloro-9-(3-dimethylaminopropylidene) thioxanthene, which in its substitutions on the skeleton and in its side chain corresponds to chlorpromazine.

In animals Taractan has been shown to exert tranquilizing and antiemetic effects similar to those of chlorpromazine without



CHLORPROTHIXENE

Chlorprothixene is available as Taractan, the trademark of F. Hoffmann-La Roche & Co., Ltd., Basel, Switzerland.

From the Male Division of "Am Steinhof" of the City of Vienna, Austria, Director, Dr. Heinrich Gross.

narcotic action and with high tolerance. Even very small doses reduce motor activity effectively and weaken conditioned reflexes. As with chlorpromazine, the action of narcotics is potentiated. Like the highly active tranquilizing agents, it produces a typical hypothermic effect. It reduces the intensity of convulsions induced by strychnine and nikethamide. In contrast to reserpine and the reserpine-like substances, it does not significantly lower the 5-hydroxytryptamine (serotonin) content of the rabbit brain. Like chlorpromazine, Taractan has a hypotensive effect but exerts little or no influence on pulse rate. Experiments utilizing electrical stimulation of the reticular formation in cats suggest that the site of action is the brain stem, while in dogs there is also action on the cortex.

Several investigators[5-7] have found that the clinical action of Taractan resembles that of chlorpromazine, without many of its toxic manifestations. Others[8-10] comment on the salutary action of Taractan in manic-depressive patients, agitated depressions, all types of psychomotor agitation and acute alcoholic psychoses. Apart from its satisfactory sedative properties, it has little effectiveness in schizophrenics and patients with paranoid hallucinatory agitation. Poeldinger[8] reported on the pronounced antidepressive action of Taractan which, in his experience, approached that of the monoaminoxidase inhibitors, and occasionally also resembled the thymoleptic effect of imipramine. He concluded that Taractan could be used advantageously in combination with other drugs and with electroshock.

Møller-Nielson, et al.,[11] reported on the pronounced sedative effects of the chemically identical compound Truxal. Alsen and Frey[12] used Taractan in acute alcoholic psychoses, as well as in pre-delirious states. They asserted that in these situations it proved to be more satisfactory than all previously used neuroleptic drugs in combatting restlessness and withdrawal symptoms.

It is the purpose of this paper to report on our own clinical experience in 312 patients treated with Taractan in our male psychiatric wards.

To date, we have tested chlorprothixene in the treatment of 426 male patients in a psychiatric hospital; however, the present report is concerned only with results obtained when the drug was employed as a basal neuroleptic agent in 312 patients. In the remaining 114, Taractan was used orally in low doses (3 x 15 mg./day) in the form of sugar-coated pills or as neuroleptic treatment (150-600 mg./day). An additional 73 patients who were given Taractan orally for neuroleptic treatment were sedated with it prior to the initiation of treatment.

The patients treated parenterally ranged in age from 20 to more than 70 years. Almost three-quarters of them were between 20 and 60 years of age. Table I shows the distribution of these patients by diagnostic categories.

For initial sedation which, in our experience, represents the major indication for Taractan, parenteral administration was used. In this form the drug is locally well

TABLE I

Schizophrenias		177
Hebephrenia	42	
Catatonia	45	
Simple Schizophrenia	34	
Paranoid Schizophrenia	43	
Paraphrenia	5	
Paranoia	8	
Mixed Psychoses		22
Predominantly manic	12	
Predominantly depressive	10	
Manic-Depressive Psychoses		24
Manic	18	
Melancholic	4	
Mixed forms	2	
Alcohol Psychoses		65
Delirium Tremens	43	
Hallucinoses	7	
Predelirious states	12	
Acute intoxications	3	
Other Diagnoses		24
Erethistic feeblemindedness	6	
States of agitation in progressive paralysis ("paralytic dementia")	2	
State of confusion following cranial brain trauma	2	
Senile arteriosclerotic confusion	5	
Toxicomanias	4	
Psychogenic reactions	5	
Total		312

tolerated. The injection given intramuscularly is almost always painless and only occasionally and after repeated administration does it lead to local indurations, rarely to infiltrations, which however, never reach the intensity observed frequently with chlorpromazine. Since, as a rule, the injections are completed within three days, these complications can be avoided.

Dosage

As in the case of the phenothiazine derivatives, the dosage depends on the initial psychic condition, and constitutional components difficult to assess. In less disturbed patients a dose of 30 mg. was generally sufficient to achieve a sedative effect in 15 to 30 minutes; this sometimes lasted up to 12 hours and in most instances the patient fell asleep. The sleep was deeper than that induced by other neuroleptic drugs but the patient could be aroused without difficulty. If the sedative effect proved insufficient, as was the case in psychomotor restlessness, an additional 30 to 60 mg. was given intramuscularly within the first hour. The same initial dose was repeated twice within 24 hours for a total dose of 90 to 180 mg. Barring exceptional cases this was generally sufficient to obtain adequate sedative effect. It was seldom found necessary to inject more than 180 mg. per day (the highest daily dose for catatonic or manic cases was 270 to 460 mg.) Since the psychic sedation at first does not last beyond the period of sleep it was advantageous to continue giving Taractan in the same dosage until it became possible to change to oral medication. In order to potentiate the sedative effect, when necessary, promethazine, chlorperphenazine or thioproperazine was administered adjunctively.

Side Effects

During initial sedation side effects with Taractan medication were mild. Absolute bed rest must be maintained. *Orthostatic collapse,* occurring at first in 3.5% of cases treated parenterally, could in all probability have been avoided since it occurred always when patients, disobeying orders, got out of bed. Since the tendency to collapse is usually greater with a higher initial dose, and according to Arnold,[7] may continue for 12 hours after injection, it is desirable to obtain sedation initially with the smallest possible dose.

Tachycardias with pulse rates of 100 to 120 per minute were observed regularly without impairment of the patients' health. Occasionally *hyperthermia* was noted. In four patients, i.e. 1.3% of all cases, *excitomotor symptoms* became apparent—tongue-pharynx syndrome, in two, trismus in one and ocular spasm in one. Significantly, three out of the four patients were psychopaths with a tendency to hysterical reactions.

It is questionable whether Taractan treatment causes true *psychic turbulence phenomena.* While in two patients psychomotor unrest seemed to increase after the two injections, the third produced the desired sedation. Other side effects on the second and third day of treatment were the almost ever present *drying-up symptoms* of the oral and nasal mucous membranes and a striking *facial pallor.* The patient seldom found these side effects troublesome and during initial sedation they were of little significance and could therefore be disregarded.

Results

The experiences gained from the preliminary experiments showed that in the overwhelming majority of cases after 3-day administration of Taractan psychic sedation had progressed to a point where it was possible to change over to oral medication. Table II shows the duration of parenteral treatment in different patients.

The patients treated parenterally for more than three days were in the minority—those categorized as extremely disturbed manics and catatonics, agitated melancholics or alcoholics in delirium who could not be sufficiently sedated even after three days; others required parenteral treatment for distressing sleep disorders and nocturnal hallucinations.

The essential effect of the basal sedation brought about by Taractan consists not only of a change in waking awareness; there is

also a lessening of basic drive and mood to a point of apathy and indifference. Taken together, these constitute the characteristic action of a neuroleptic agent, and in our opinion must be differentiated from an actual antipsychotic effect. We need the basal sedation in clinical psychiatry not only to balance the disquieting atmosphere in the wards but also to render the patient, for whom the enforced confinement often means an added psychic trauma, more receptive to subsequent therapy. Neuroleptic treatment to which the schizophrenic patient particularly is usually resistant from the very beginning is therefore appropriately initiated with a basal neuroleptic drug even if no turbulent psychic symptoms are present. A temporary basal sedation also proved advantageous if a patient undergoing neuroleptic treatment offered open or hidden resistance (i.e. refused to take or concealed the tablets), or when a medication had to be discontinued because of insufficient effect or severe side reactions.

TABLE II

Duration of Treatment by Injections

Days	*No. Pts.*
1	32
2	20
3	161
4	31
5	21
6	12
7	11
8-14	21
15-30	3
	312

In *schizophrenics,* initial sedation with Taractan presents hardly any difficulties except in cases of extreme psychomotor excitation or states of severe stupor, e.g. acute catatonias accompanied by refusal to take nourishment. After the 3-day basal sedation, the patients are almost always at the point where it is possible to continue with oral treatment. As we have explained elsewhere,[2] Taractan has only a slight antischizophrenic effect, i.e. it is much less able to favorably influence such schizophrenic symptoms as hallucinations, delusions, and thought and drive disorders than other neuroleptic agents. Furthermore, in the high dosage required for oral administration (150 to 600 mg. per day) the soporific and fatigue-producing effects are too great. These side effects caused difficulties in almost all of the cases treated, with the exception of a few with manic syndromes. In general, we found it expedient to replace Taractan with another neuroleptic agent as soon as initial sedation had been accomplished. The choice of this neuroleptic drug depends upon the type of presenting symptoms.

It is important to emphasize that even severe states of stupor or agitation in acute catatonia which until now have always required electroshock treatment could be reached and loosened with Taractan. But these are the cases in which the 3-day basal sedation is not adequate and may have to be continued for several weeks before the patients are ready for oral treatment. In five of these, highly active but less sedative neuroleptic agents such as chlorperphenazine or thioproperazine had to be administered adjunctively. The same is true for sedation of severe, manic states of agitation whether they occurred within the framework of cycloid psychoses or in schizophrenias. In agitated melancholias electroshock therapy is often unavoidable. Since, as previously stated, we used Taractan in endogenous psychoses primarily for basal sedation, as introduction to neuroleptic therapy, our data are not sufficient to permit an evaluation of the drug's influence on the psychotic symptoms themselves. Ultimate success must be the result of combined action of various successively administered psychotropic agents.

While *predelirium* states and *alcohol hallucinoses* are relatively easily sedated and made to subside with Taractan, the treatment of delirium tremens can at times be complicated. Attempts to sedate delirious patients with other neuroleptics have for the most part failed thus far. It is sometimes possible to put delirious patients to sleep by using Taractan, but only with high doses (up to 440 mg. per day). The doses of 80 mg. per day employed by Alsen and Frey[12] seemed too low for our type of patients. Since the alcoholic frequently has

some circulatory damage and therefore tends to develop orthostatic hypotension he must be treated cautiously. It is always advisable to watch for the patient's reaction to the first low dose of 30 to 60 mg. before continuing the treatment. If the effect is inadequate, a second dose up to 90 mg. may be administered after an hour. In most instances the patient is then sufficiently calmed so that he either falls asleep or exhibits only slight restless movements. If these movements increase, chlorprothixene is injected again. If necessary, treatment is continued for several days.

Recently, we adopted the procedure of supplementing Taractan with paraldehyde if the patient does not fall asleep after the first two injections. Since Taractan potentiates the action of paraldehyde, 5 to 10 mg. of the latter are sufficient. Even though we have not found this to be the ideal treatment for delirium tremens it has the advantage that the paraldehyde can be administered to the slightly sedated patient without the difficulties previously encountered when paraldehyde was used alone.

Under strict adherence to precautionary measures, especially a rigid bed regimen, the side effects from Taractan sedation are not greater in delirium tremens than in other indications. If the patients receive adjunctively a heart and circulatory supportive, as well as antibiotic protection and an abundance of vitamins, good results can be achieved. Of 45 cases treated with Taractan, we have lost only one, the patient dying of pneumonia 10 days after the onset of delirium tremens. In our opinion, Taractan is contraindicated in acute *alcohol intoxications* because it potentiates the action of alcohol. One patient, admitted during the late stage of alcohol intoxication and in extreme agitation received 60 mg. of the drug intramuscularly with the result that a state resembling narcosis developed which lasted several hours. We believe that Taractan is also contraindicated in *states of confusion due to senile arteriosclerosis,* because even high parenteral doses (60 mg. t.i.d.) are insufficient to produce adequate sedation. In such patients there is always danger of vasomotor disturbances and, because of the soporific effect of the drug, the development of pneumonia. Patient in *states of agitation* (psychopaths, neurotics, hysterics and oligophrenics) or in *states of confusion* following cranial brain traumas can for the most part be sufficiently sedated with low doses of Taractan (a few injections of 30 to 60 mg.). However, the agitation states exhibit considerably stronger reaction to the drug and, as already mentioned, tend to develop neurologic side effects. As a rule, oral medication is sufficient.

Taractan is also excellently suited for withdrawal treatment in *toxicomania* and, in our judgment, better than chlorpromazine. In case of severe withdrawal symptoms, the patients were more than adequately sedated for several days by parenteral administration of Taractan (90 to 180 mg./day) and subsequently with smaller, oral doses (60 to 150 mg.) over a longer period.

We were not able to establish the pronounced *antidepressive effect* described by other authors. As noted above, it is perhaps suitable, in combination with electroshock treatment for basal sedation of especially agitated melancholias. But once the sedation is accomplished, treatment must be continued by other means. If it cannot be avoided we give further electroshock treatment but prefer "stoss" therapy (massive doses) with the monoamine oxidase inhibitor isocarboxazid (Marplan). Taractan (doses between 30 and 100 mg.) either parenteral or oral can be given adjunctively to treat insomnia.

Summary

The report describes clinical experiences with the first thioxanthene-derived neuroleptic agent, chlorprothixene. A total of 426 male patients of a psychiatric ward were treated, 312 of whom received the drug parenterally. Due to its prompt and highly effective initial sedation, relatively small injection volume and mildness of side effects the drug is extremely well suited to bring about sedation of all types of psychomotor agitation. It is often advantageous to use

initially and then continue treatment with other, less sedative neuroleptic drugs. Based on the results obtained in 312 patients Taractan may be characterized as the best basal neuroleptic drug available to date.

In view of its relatively mild antipsychotic action and the fact that its soporific effect outlasts the initial sedation it appears less suitable for therapeutic use in endogenous psychoses, with the exception of manic syndromes.

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Combination of General Paresis and Huntington's Chorea: A Case Report

JANE E. OLTMAN, M.D., and SAMUEL FRIEDMAN, M.D.

As indicated in a previous report,[1] Huntington's chorea is a relatively uncommon disease. It is not surprising, therefore, to find that its occurrence in combination with other neurological disorder is extremely rare. There have been only two previous, incomplete reports in the English language of apparent coincidence of Huntington's chorea and general paresis..

In the first of these, Falstein and Stone[2] reported the case of a 36 year old man who exhibited clinical manifestations of Huntington's chorea but revealed evidences of luetic meningo-encephalitis at postmortem examination. There was a positive family history of Huntington's chorea in the maternal line. The patient exhibited characteristic choreiform movements, and positive serology in the blood and spinal fluid. Postmortem examination revealed a chronic syphilitic meningo-encephalitis, with degeneration of the ganglion cells of the cortices, disturbance of architectonic structure, atrophy of the grey cortex, and marked proliferation of fibrous and protoplasmic neuroglia. There did not appear to be macroscopic or microscopic evidence of Huntington's chorea. Unfortunately, however, the basal ganglia were not examined.

More recently, Merskey[3] also reported a case of general paresis complicating Huntington's chorea. However, the combined diagnosis was made retrospectively after the patient's death. The recorded clinical description appeared to substantiate the presence of both conditions; however, postmor-

tem examination was not performed. The author also made reference to two other cases previously reported in the French literature.[4]

The case which is reported herewith presented well defined evidences of Huntington's chorea and general paresis, both clinically and pathologically. Thus it represents the first complete report of this combination of diseases in the English language.

Case Report

M.C., a 50-year-old male, was admitted to the hospital in August 1948. The family history was heavily tainted with Huntington's chorea. Two siblings were afflicted with the disorder and the father and paternal grandfather had both died of Huntington's chorea at other institutions. The patient was stated to have contracted syphilis at age 20. He received limited treatment but apparently the serology was temporarily reversed. About four years prior to his current hospitalization, some difficulty in ambulation was noted. A year or so later he was hospitalized at a local general hospital whose record described the presence of a spastic gait, positive Romberg and Argyll-Robertson pupils. The diagnosis of neurosyphilis was made, and penicillin therapy was administered.

Thereafter, he continued to be retarded, lacking in interest and emotionally constricted. He was unable to work. He became progressively more withdrawn and seclusive. At the time of admission to this hospital, he exhibited slurred speech, inanimate facies, mildly ataxic gait, hyperactive reflexes, and bilaterally positive Babinski. Position sense was mildly impaired. However, the pupils were normal and reactive to light and accommodation. In the mental sphere he appeared retarded and emotionally blunted. He displayed a poverty of ideation and

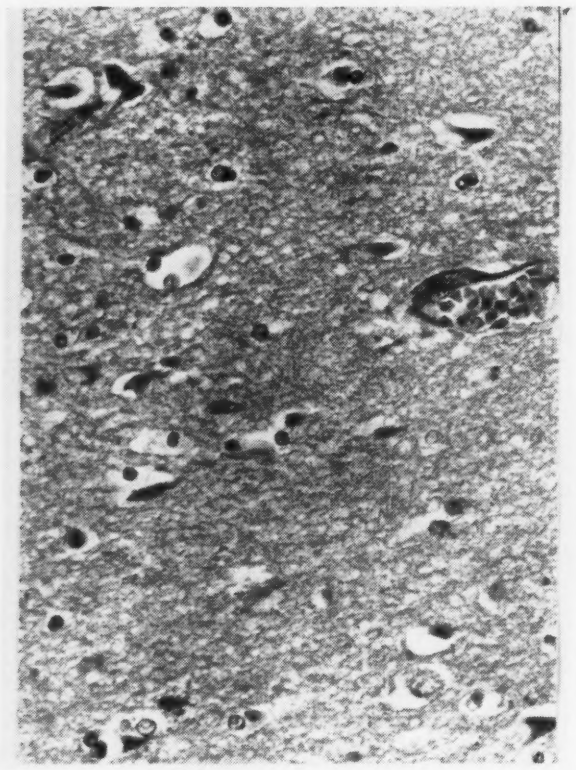

Fig. 1. Photomicrograph of section from frontal cortex illustrating dropping-out of neurons, and gliosis. (Nissl stain.)

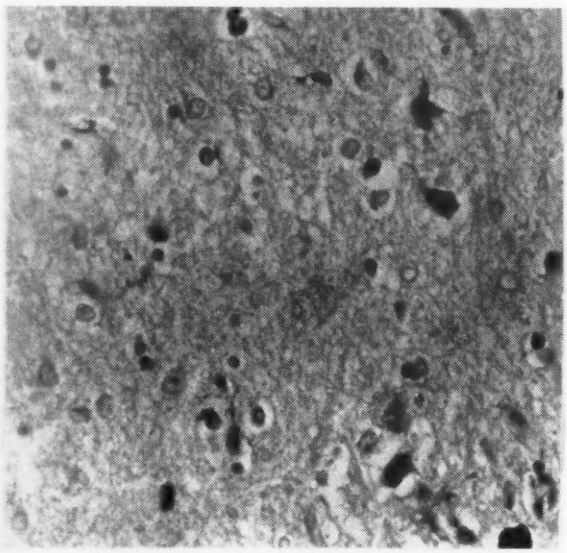

Fig. 2. Photomicrograph of section from caudate nucleus showing dropping-out of neurons, and swollen astrocytes. (Nissl stain.)

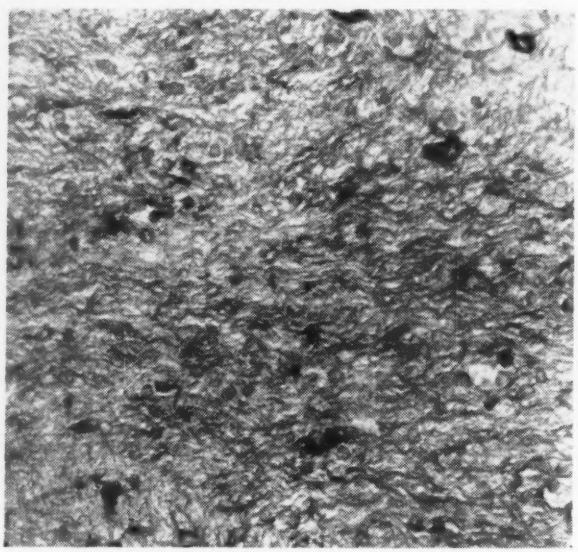

Fig. 3. Photomicrograph of section from caudate nucleus showing marked gliosis. (Holzer stain.)

interests. There were severe defects in intellectual acuity and functioning. Blood serology was positive. Examination of the spinal fluid revealed the following findings: cells—0; protein—40 mg.%; paretic colloidal gold curve and positive Wassermann in 0.2 dilution. Similar findings were obtained in several subsequent examinations. Massive penicillin therapy was administered, and the spinal fluid serology was finally reversed approximately a year later. The diagnosis of psychosis with syphilis of the central nervous system, meningo-encephalitic type, was made.

Approximately two years after admission, increasing difficulty in ambulation was noted. This was accompanied by a few, excessive, purposeless movements, present chiefly in the upper extremities. During subsequent months, generalized choreiform movements and bizarre, jerky, ungainly gait increased in intensity. His speech became practically incomprehensible. Intellectual and social deterioration became even more profound than previously. Deep reflexes continued to be hyperactive, with an added "hung" quality, but Babinski sign was now equivocal. Clinical observations and the family history made it apparent that this individual suffered from two neurological disorders, namely, syphilis of the central nervous system, which had been the primary cause of his hospitalization, and Huntington's chorea, which became manifest about two years after his admission. His physical reserves declined gradually, and he finally expired in July 1957, at age 59.

At autopsy, general examination of the organs revealed pneumonia as the immediate cause of death. The pertinent features in the nervous system were as follows. The brain weighed 1175 grams. The leptomeninges were diffusely thickened and opaque over the superior aspect of the brain; however, they were readily separated from the underlying cortex. There was moderate atrophy of the gyri and widening of the sulci, and gross atrophy of the caudate nuclei. Microscopically, the brain revealed atrophy of the cortex, especially in the frontal lobes. There was gross disturbance of the cyto-architecture, with numerous foci in which dropping-out of nerve cells was evident. There was a marked increase in glia cells generally, but particularly in the subcortical white matter. Meninges were thickened and fibrosed. The blood vessel walls appeared thickened and scarred, but there were no perivascular collections of inflammatory cells. The caudate nuclei revealed atrophy; there was a diffuse dropping-out of neurons, particularly the smaller ones. Marked, diffuse gliosis was evident in the Holzer sections. It was the consensus of opinion that these findings were attributable to Huntington's chorea and old, healed neurosyphilis.

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The Role of Hypnosis in Psychiatry

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Hypnosis is an altered state of relatedness characterized by an irrational submission into a regressed, somewhat dissociated state with a relative abandonment of executive control, that is instigated and actively enhanced by the hypnotist.

This definition assumes that man often varies his degree of consciousness and awareness in a complex way from one extreme of complete attention and concentration to the opposite extreme of complete inattention and indifference; from a total integration with another person to a merely fragmented contact or even total dissociation; and from various depths of sleep to various levels of being awake.

In this dynamic interchange of forces within the person and between persons, an alteration of focus can take place when the hypnotist structures a specific modality of relating with a participant who has the capacity, be it talent or vulnerability, to respond with the specific trait of irrational submission and dissociation. This alteration of awareness and relationship can be so profound as to evoke changes in sensory perception, so marked that even total anesthesia can occur or hallucinations be elicited. In addition, there can be changes in motor power even to the point of paralysis; changes in memory from total amnesia to partial amnesia; and intense revivification of past memories with emotional as well as factual recall which cannot be readily elicited in any other way. This broad range of sensory and motor alteration provides the therapist with many opportunities to influence symptoms by means of proper intervention, as well as by offering challenging research possibilities.[1]

In general, nothing essential can ultimately be achieved in the psychotherapeutic setting with hypnosis that cannot also be achieved without hypnosis. However, hypnosis does offer at least two advantages over the non-hypnotic psychotherapeutic intervention. First, the time factor can be appreciably reduced. Second, the transference manifestations can be used by the therapist more readily and more directly without verbal insight into its nature, and without resolving the transference first.

In addition, the same psychotherapeutic principles that are valid in the non-hypnotic situation are just as valid when hypnosis is used. A peculiar clang phenomenon seems to occur with many psychiatrists and laymen when the word hypnosis is introduced. In a vague way, it is assumed that the hypnotic phenomenon itself is so remarkably different from our general clinical and social experience that we are tempted to abandon our usual frame of references in our effort to understand what we observe. I propose the thesis that it is unnecessary to postulate a separate set of principles when hypnosis is used.

The correlation of hypnotic and non-hypnotic behavior is one of the fruitful areas for clinical research. The role of transference and the impact of the post-hypnotic triad (i.e. amnesia for the stimulus, compulsive compliance, and rationalization) are inviting areas in which to explore the dynamic operation in the non-hypnotic sphere and its transition into the hypnotic sphere.[2]

One could argue that for clarification purposes even the term "hypnotherapy" is misleading and might well be discarded. The most that one can expect of hypnosis is an *adjunct* role in the psychotherapeutic setting, but the name hypnotherapy tends to focus on the ancillary rather than the main aspect of interchange. The name can have some value from a propaganda point of view, in that it may promote the aura of magical expectation for the potential subject, but it obscures the nature of the therapist's role. At this juncture it is appropriate to recall that it is a wise hypnotist who knows who is hypnotizing whom.

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To ascribe an adjunct role to hypnosis gives it a prominent enough role and at the same time offers a perspective that enables a more general acceptance of its usefulness, and stimulates more inquiry into its indications and limitations.

It is possible to categorize and specify the functions of hypnosis in the following manner:

a. Non-psychotherapeutic uses:
   1. Parlor amusement and theatrical display
   2. Education—e.g. demonstrate psycho-dynamic phenomena
   3. Anesthesia—o.b., surgery, dentistry
   4. Research

b. Psychotherapeutic:
   1. Symptom alteration
   2. Attitude alteration
   3. Explorative—dissolve amnesia
   4. Transference modification

In group a. (i.e. non-psychotherapeutic) the hypnotic effect is the main effect. But in group b. (i.e. the psychiatric category) the main aspect of therapy is:

1. Using this occasion to restore as much as possible the patient's previous level of self-esteem.
2. Effecting alleviation of stress in environment.
3. Enabling the patient to reformulate the symbolism of the symptom into a less extreme form, even though the basic language remains.

The adjunctive role of hypnosis is that it reduces the time needed for treatment by cutting through resistance and allowing the therapist to use the transference as a therapeutic operative device in a healthward direction.

To illustrate:

I was asked to see a 45-year-old woman with severe, constant, 8-day seizure of hiccuping that stopped only when she was asleep. For about five months prior to this there was a gradual development of spasmus of aerophagia and "indigestion." This was treated for several months with various medications and regarded as "indigestion" but eventually it became more severe and was diagnosed as diaphragmatic spasm or hiccups. Exhaustive laboratory and clinical studies were made to rule out organic provocation and all findings were negative. In the meantime the hiccups became more severe and no longer responded to medication.

When I met this patient in her hospital room, the hiccups were so severe that it was not possible to obtain a history from her. Her desperation was shared by her husband who remained in the room during the entire interview. She was put into a trance with the focus upon relaxation and a feeling of drowsiness. The referring doctor had already informed me that the hiccups always stopped when she fell asleep and the patient was well aware of this.

During the course of the one-hour interview she was put into a trance six times. Each time her hypnotizability was enhanced and each time the rhythm of her hiccups was influenced. At no time was she signalled to stop the hiccup. The stress was on relaxation and sleepiness and consequent to this the patient on her own stopped the hiccups. To emphasize the functional nature of the symptom a post-hypnotic signal was given on two occasions to stimulate an accentuation of the hiccup spasm when she awoke, but upon signal, when her elbow was touched, the hiccups would again subside. During the final trance the post-hypnotic signal was that she would easily fall into a deep, relaxing sleep that evening at around 10 o'clock. I learned the next day that the hiccups stopped abruptly after I left. She fell asleep readily at 10:00 P.M. and awoke the next day free of the hiccups.

She was sent home that day and began to receive phone calls from various friends and relatives. It was implied by some of the comments that the whole illness was rather silly, and some comments expressed doubt about the integrity and reputation of any physician who would resort to hypnosis. The patient became increasingly embarrassed by the whole episode, and as the time approached for her second visit the hiccups again became intense. As she entered the office she made some reference to witchcraft and her response to the trance induction, although adequate, was not nearly as deep as during the first encounter. The next day arrangements were made to interview her husband, at which time many of the nuances of the psychotherapeutic setting were clarified. As a result the therapist's role was enhanced with the patient through her husband's help. When the patient returned for the third interview, she was again as responsive to the hypnotic trance as the first time. During this session, several trances were induced in which she was educated to impose a control over the occurrence and frequency of the hiccups by clasping her right hand together. She was led to expect that by transferring the sensation of tension from her chest through her right arm down to her hand she would not only displace the area of tension, but allow the tension to dissipate by slowly opening her hand. This enabled her to develop some sense of inner control as well as the power to circumscribe and contain the symptom expression.

So far this clinical course follows the ordinary sequence that one can well expect with the use of hypnosis. At this point, I was able to elicit a detailed history of past experiences that she had had with somatic symptoms. I learned that 15 years prior to this current crisis, she suddenly developed

a backache the day after her son's confirmation. For several months therapeutic efforts were made to relieve her back pain but eventually this was diagnosed as a ruptured disc and she was operated upon. She became symptom-free for four months. Then the back pain recurred and she again made the rounds of several clinics and finally had a second disc operation with relief of pain immediately after awaking from the anesthesia, but on the first day that she sat up after the operation hiccups started. They became increasingly intense and no medical procedure was able to control it until about two weeks later when her family physician who had been ill returned to practice and came to see her. She had a high regard for him and was pleased to see him back. In a firm, yet warm, manner Dr. R. took over and told her that he would educate her to control this symptom by learning the proper breathing exercises. With these exercises the hiccups stopped. A few days later Dr. R. had a coronary attack, and the following day the patient developed a recurrence of her hiccups. Dr. R. then requested that the patient be brought to his bedside where in a rather dramatic way he indicated that she would be the final patient he would treat before going into retirement because of his own illness. They again repeated these breathing exercises. Her hiccups stopped and did not recur for 15 years. The current episode started shortly after her father died of coronary thrombosis.

Although Dr. R.'s therapeutic approach was not called hypnosis, is there any doubt that the impact of his so-called breathing exercises was precisely that of the hypnotic experience she recently received? In addition, I believe Dr. R. fulfilled the previously stated prerequisites for an adequate therapeutic response, namely 1) restoration of her former level of self-esteem; 2) alleviation of the stress of losing her symptom, by offering his interest and support; and 3) helping her to reformulate or restate her somatic language.

In the experience with Dr. R. the hypnotic aspect was so much an adjunct that it was not even recognized or identified as a procedure *per se,* by either the physician or the patient.

In summary:

1) Hypnotic phenomena can occur whether identified as such or not.

2) When hypnosis is used in therapy, the same generalities of psychotherapeutic procedure that are valid in the non-hypnotic relationship are just as valid and appropriate in the hypnotic relationship.

3) Further study of this spectrum of the hypnotic-non-hypnotic state provides provocative and challenging opportunity to enhance our understanding of the still somewhat elusive psychotherapeutic process.[3]

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Clinical Evaluation of Fluphenazine in the Treatment of Psychotic Patients

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The expanding role of psychopharmacologic drugs in the treatment of psychiatric disorders is affirmed by the growing number of ataractic agents now in clinical use. Although the merit of these drugs in providing symptomatic relief and in facilitating the use of psychotherapy and adjunctive therapies is well established,[1-5] their effectiveness in the management of chronic psychotic patients has been limited.[6-9] These patients often do not respond sufficiently to drug therapy to benefit from the rehabilitative measures necessary for productive activity and eventual adjustment to community living. As they fail to respond to various therapies their illness follows a downhill course. A feeling of hopelessness develops which not only appears to spread among the patients themselves but, unfortunately, may even effect the morale and interest of the medical staff and personnel directly responsible for their care.

A persistent program of pharmacologic treatment would appear to be justified for chronic patients if they are to be activated to the extent that they can benefit from specific rehabilitative therapies. A significant improvement even in a few patients may exert a favorable effect on other patients and may serve to strengthen the interests and usefulness of medical and ward personnel. Eventually, the problem of pharmacologic resistance in chronic drug-refractory patients may yield to improvements in existing drugs and to the development of new psycho-pharmacologic agents. Evaluation of a new phenothiazine, fluphenazine (Prolixin), is a natural outgrowth of this concept, encouraged by earlier favorable experiences[9-11] and by the results of our own pilot investigation. The present report describes the trial of fluphenazine in a series of 50 patients at the Embreeville State Hospital.

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Fluphenazine for this study was supplier as Prolixin by The Squibb Institute for Medical Research, New Brunswick, N. J.

Materials and Method

The Patients—The clinical group consisted of 31 male and 19 female patients. Male patients ranged in age from 33 to 78 years, averaging 54.5 years. They had been hospitalized for 3 months to 16 years, with an average of 4.8 years. The age range for the females was 46 to 76 years, averaging 58.2 years. The duration of their hospitalization varied from 13 months to 8 years, with an average of 3.4 years. Most of them were considered management problems on the wards. Distribution according to diagnosis is presented in Table I.

All of these patients had previously been treated with one or more ataractic agents including chlorpromazine, mepazine, prochlorperazine, trifluopromazine, trifluperazine and reserpine. Nine patients had received electroconvulsive therapy. While many had experienced varying degrees of improvement with previous medication, none had shown significant progress in the two months preceding this study. Several had been refractory to all types of drug therapy in the past.

General Procedure—Each patient was interviewed by the principal investigator and by the ward physician. A clinical estimate of the patient's current mental status and a list of the symptomatic criteria on which he was to be evaluated were recorded separately by each physician. A basic data form was completed by the principal investigator to include the following information: name, age and sex, date of admission to the hospital and diagnosis, brief history of illness and hospital course, previous therapy and general physical condition. A careful record of response to treatment was maintained throughout the study in the form of weekly observations by the physicians and

TABLE I
Patients According to Diagnosis

	DISTRIBUTION			RESULTS			
Diagnosis	No. of Pts.	Male	Female	Markedly Improved	Moderately Improved	No Change	Total Improved
SCHIZOPHRENIC REACTIONS							
Paranoid Type	9	5	4	2	3	4	5
Catatonic Type	6	2	4	0	4	2	4
Chronic Undifferentiated	9	6	3	0	4	5	4
Others	2	1	1	1	1	0	2
	26			3—12%	12—46%	11—42%	15—58%
MANIC DEPRESSIVE REACTIONS							
Manic Type	2	1	1	1	1	0	2
Depressed Type	1	1	–	0	0	1	0
				1—33%	1—33%	1—33%	2—67%
Involutional Psychotic Reaction	6	1	4	2—33%	3—50%	1—17%	5—83%
	9						
CHRONIC BRAIN SYNDROME							
Assoc. with Arteriosclerosis	8	6	2	0	2	6	2
Circulatory Disturbance	2	2	–	0	1	1	1
CNS Syphilis	1	1	–	0	1	0	1
Convulsive Disorder	1	2	–	0	1	0	1
Intoxication	3	3	–	1	1	1	2
	15			1— 6%	6—40%	8—53%	7—46%
	50	31	19	7—14%	22—44%	21—42%	29—58%

the reports of nurses and ward attendants.

At the time of final evaluation, interviews were again conducted by ward physicians and the investigator at which symptomatic criteria were reviewed and clinical status appraised. The comparison of initial and final data furnished an absolute statement of change attributable to fluphenazine.

Administration of Fluphenazine—Fluphenazine was administered orally in 1 mg. or 2.5 mg. tablets or as an elixir containing 5 mg. per cubic centimeter. All 50 patients received the drug for at least 70 days. Thirty-five patients received initial doses ranging from 5 mg. to 22.5 mg. daily, 10 were started on 2.5 mg. daily and 5 on 1 mg. daily. Maintenance therapy ranged from 1 mg. to 15 mg. daily. Dosage and duration of treatment are given in Table II.

The larger initial dosages were employed in the younger patients manifesting more severe symptomatology, particularly of an "acting out" nature. Smaller starting doses were administered to the elderly group, to

TABLE II
Dosage and Duration of Treatment

No. Pts.	Initial Dosage (mg./day—duration)	Maintenance Dosage (mg./day)	Total Duration of Therapy* (days)
5	1 mg. daily	1 mg.	70
10	2.5 mg. daily for 7 days	1 to 2.5 mg.	70
12	2.5 mg. b.i.d. for 5 days	2.5 mg.	70
10	5 mg. b.i.d. for 3 days	2.5 to 5 mg.	70
5	5 mg. t.i.d.	2.5 to 5 mg.	70
8	7.5 mg. t.i.d. for 2 days	2.5 to 15 mg.	70

*Time of last evaluation.

patients found in only fair physical condition or where concurrent physical illness was present. In general, therapeutic dose range was carefully individualized within the limitations of the maximum quantity which could be tolerated without untoward reactions and the minimum quantity required for a beneficial influence. Patients were continued on each dosage level for at least a week, irrespective of early evidence of side effects. Adjustments were usually made during the weekly evaluation meetings regularly scheduled. Side effects, where they appeared, were controlled by decreasing dosage, adding adjunctive symptomatic medication, or a combination of both measures. In the final stages of this investigation, maintenance dosage was of the order of 1 mg. daily for 28 patients, 2.5 mg. daily for 14, 2.5 mg. every 12 hours for 6 and 5 mg. every 12 hours for two patients.

Clinical Results

Assessment of response to treatment was based on a review of the weekly progress notes of the physicians, the reports of nurses and ward attendants, and a final evaluation interview with each patient conducted by the ward physician and investigator. A clinical rating was given each patient during this interview. "Marked improvement" implied complete remission of all objective symptoms and significant relief of subjective symptoms so that the possibilities for rehabilitation were good. All patients in this group were already participating in occupational, industrial or group therapies. With "moderate improvement," partial remission of objective and subjective symptoms allowed for more extensive rehabilitative measures and for simpler ward management. Most of these patients were not quite ready for adjunctive therapies but had demonstrated considerable progress in behavior and attitude towards other patients and hospital personnel. "No change" indicated the absence of significant improvement in status.

Results of treatment in the several diagnostic categories, according to group clinical evaluation, are summarized in Table I. During the final interview, symptomatic criteria were again considered for comparison with initial data. The response of presenting symptomatology to fluphenazine, appraised by ward physician and investigator, is summarized in Table III.

Of the 50 chronic patients of various types treated with fluphenazine, 7 (14%) showed marked improvement, three of these to the degree that they were suited for discharge. Eight of the 22 patients (44%) who showed moderate improvement had assumed some type of rehabilitative assignment and the entire group exhibited significantly improved behavior and were more amenable to ward routine. No change in condition was detectable in 21 (42%) cases.

Results according to symptomatic criteria furnished a rating of 63% improvement. This differs slightly from the rating of 58% improvement based on clinical impression.

TABLE III

Results in Terms of Symptomatic Criteria

Symptom	No. of Pts.	Response to Therapy: Markedly Improved	Moderately Improved	No Change	Total Improved
Agitation (Hyperactivity)	30	9	18	3	27 (90%)
Socialization	32	8	18	6	26 (18%)
Tension	41	13	19	9	32 (78%)
Attention Span (Alertness)	41	5	22	14	27 (66%)
Insomnia	18	2	10	6	12 (66%)
Cooperation	43	10	18	15	28 (65%)
Participation in Ward Activities, Therapy	46	9	21	16	30 (65%)
Anorexia	14	0	9	5	9 (64%)
Interest in Personal Hygiene, Appearance	38	4	20	14	24 (63%)
Appropriate Affect	26	6	10	10	16 (62%)
Bizarre Behavior	20	2	10	8	12 (60%)
Friendliness (Dec. Hostility)	34	8	12	14	20 (58%)
Delusions	31	5	12	14	17 (58%)
Hallucinations	14	2	6	6	8 (57%)
Appropriate Speech	29	6	10	13	16 (55%)
Orientation	18	3	7	8	10 (55%)
Accessibility	38	4	14	20	18 (47%)
Memory	15	0	6	9	6 (40%)
Withdrawal	8	0	2	6	2 (25%)
Totals	536	96	244	196	340 (63%)

The subjective element involved in interpreting impressions of over-all improvement by several persons, as compared with recording specific apparent symptoms, can reasonably account for the 5% difference in improvement ratings. An approach concerned with the amelioration of individual symptoms has the advantage of pinpointing more specific effects of drug therapy.

Fluphenazine effected the most pronounced changes in clinical status by reducing agitation (90%) and tension (78%). This was undoubtedly related to a powerful tranquilizing action. It was therapeutically significant, however, that this powerful tranquilizing agent also exerted a profound effect in activating chronic patients and in promoting improved behavior. When such criteria as ward participation (65%), socialization (81%), interest in personal hygiene (64%), attention span (66%), cooperation (65%) and friendliness (58%) were considered together, it became apparent that a positive behavioral effect was obtained in this series.

The effects of the drug on delusions (58%), hallucinations (57%). orientation (55%), accessibility (47%), and memory (46%) were similar to those previously observed with several other potent phenothiazine analogues. It appeared, however, that fluphenazine achieved its benefits somewhat earlier than other oral phenothiazines. The greatest improvement in these symptoms occurred in the paranoid schizophrenic and involutional psychotic groups. The 25% improvement rating for withdrawal was referable to two catatonic patients, each of whom was activated to occasional participation in ward activities. Insomnia, as a symptom, was alleviated in 66% of cases and was probably related to the ability of the drug to relieve tension. Although the appetite of most patients improved with treatment, fluphenazine did not appear to stimulate appetite as extensively as chlorpromazine. Anorexia, as an initial symptom, was ameliorated in 64% of patients.

A general pattern of improvement emerged during the investigation. In patients who made marked progress, the initial beneficial response usually appeared within the first two weeks of therapy, and was manifested by noticeable improvement in behavior. They became less impulsive, more interested in their surroundings and more cooperative. Few patients became irritable or antagonistic towards taking medication even with the development of side effects. As patients became more active, increases in appetite were observed and moods became more pleasant. Secondarily, and more gradually, delusional ideation, hallucinations and bizarre behavior subsided.

Side Effects

The side effects observed with fluphenazine generally resembled those encountered with other potent phenothiazine derivatives, particularly trifluopromazine and trifluoperazine. Although occasionally bothersome to the patients, most were mild and transient in nature. Some required control measures, either reduction in dosage or appropriate medication or both, but none necessitated discontinuance of fluphenazine. The incidence and character of untoward reactions are presented in Table IV.

The minor side effects which developed early in therapy included drowsiness (22), dry mouth (18), lethargy (7), insomnia (5), headache (4), dizziness (5), perspiration (4), weakness and fatigue (2), and blurred vision (1). In most instances, no dosage adjustment or adjunctive medication proved necessary but where the reaction persisted for more than three days or proved disturbing to the patient, control measures were instituted. Drowsiness subsided spontaneously in 12 cases during the second week of therapy but in the remaining 10, Ritalin® (Ciba) was employed concomitantly with the tranquilizing medication. Lethargy responded to reduction in fluphenazine dosage or to the use of Ritalin. The stimulant was withdrawn as lethargy subsided. Meratran® (Merrell) and one "therapeutic formula" vitamin capsule daily contributed to the relief of weakness and fatigue within five days. Sedation was required for short periods ranging from one to three weeks to alleviate complaints of insomnia.

TABLE IV

Incidence and Nature of Side Effects

REACTION	Patients	Daily Dose Range During Reaction	CONTROL MEASURES
Drowsiness	22	1–15 mg.	None in 12 cases; Ritalin in 10 cases.
Dry Mouth	18	1–15 mg.	None.
Motor Restlessness	12	1–5 mg.	A sedative in 4 cases; none in 8 cases.
Extrapyramidal Syndrome	9	2–15 mg.	Kemadrin in all cases.
Lethargy	7	1–15 mg.	None in 2 cases; Ritalin in 5 cases with lower dosage in 2 of these.
Constipation	6	1–10 mg.	Laxatives or fecal softeners in all cases.
Insomnia	5	1–5 mg.	A sedative in all cases.
Dizziness	5	2.5–15 mg.	Meratran in 2 cases; none in 3 cases.
Headaches	4	2.5–15 mg.	APC compound in all cases.
Anorexia	4	2.5–10 mg.	Vitamins in all cases.
Epigastric Distress	4	5–10 mg.	Fluphenazine given after meals in all cases.
Perspiration	4	1–5 mg.	None.
Weakness and Fatigue	2	1–5 mg.	Meratran and vitamins in all cases.
Numbness	2	5–15 mg.	A muscle relaxant in 1 case and aspirin in 1 case.
Dermatitis	2	1–10 mg.	None.
Blurred vision	1	5 mg.	Reduction of dosage and 1 dose of prostigmine.

Gastrointestinal effects appeared during the fourth through seventh weeks of treatment. Constipation, largely a complaint of older inactive patients, responded to the use of laxatives and fecal softeners. The four cases of anorexia gradually responded to vitamin therapy. Epigastric distress, occurring as abdominal cramps usually within 30 minutes of ingestion of fluphenazine, was eliminated by giving medication soon after meals.

The most troublesome side effects were the extrapyramidal reactions which appeared in varying degrees as motor restlessness, dyskinetic syndromes or frank parkinsonism. Motor restlessness or hyper-activity usually became most prominent during the first to third week of treatment and did not necessarily appear to be related to high dosage. At first, sedation, during the day as well as at bedtime, was employed to control motor restlessness and frequently associated insomnia. Subsequently, two patients developed parkinsonism. Thereafter, an antispasmodic, Kemadrin® (Burroughs - Wellcome), was administered where motor restlessness appeared. None of the patients treated in this manner developed parkinsonism. Numbness and aching of the extremity muscles responded well to a muscle relaxant or to aspirin.

The dyskinetic reactions all occurred during the first week of therapy. In four of the five patients, the reaction developed suddenly and involved torticollis, hyperextension of the neck and oculogyric spasms. The fifth apparently developed over a period of several hours with the patient initially complaining of difficulty in talking and swallowing and profuse sweating. These symptoms were followed by mild tonic contractions and myoclonic twitches of upper and lower extremities and finally by hyperextension of the neck, with torticollis, and by hyperextension of the trunk with the spine curved backward from the hip. There was no impairment of consciousness. Treatment consisted of intramuscular sodium phenobarbital (grs. one), given at 10-minute intervals or intramuscular caffeine sodium benzoate (7.5 grs.). In either case, symptoms were abolished within 5 to 20 minutes. Once the acute symptoms subsided, Kemadrin was administered orally in 10 mg. quantities for several doses and continued on a reduced basis thereafter. Additional doses of flu-

phenazine were omitted on the day of the attack but the regular schedule was resumed on the second day in three cases and on the fourth day in two cases without additional extrapyramidal effects.

Parkinsonism occurred in four patients, all of whom developed the full symptom complex of gait and posture abnormalities, rigidity, salivation and tremors before control medication was given. Kemadrin in doses of 10 mg. three times daily was administered for two days followed by dosages ranging from 5 mg. to 20 mg. daily for several weeks. Once the parkinsonism subsided, Kemadrin was discontinued. Complete relief was obtained within 10 days. It was not necessary to reduce fluphenazine dosage in any patient.

The incidence of extrapyramidal syndromes during this study was approximately the same as observed in chronic patients receiving prochlorperazine but less than that encountered with perphenazine or trifluperazine. The early onset of dyskinesia and parkinsonism at relatively low dosages may reflect the potency of fluphenazine but it may also represent a biologic sensitivity to the subcortical effects of the drug. This may account for the finding that some patients develop extrapyramidal reactions early and in response to small doses while others show no neurologic effect regardless of dosage or duration of treatment.

There were no occurrences of orthostatic hypotension with syncope and, in fact, no significant lowering of blood pressure was noted at any time during the study. Hematologic reports were within normal limits. Two patients exhibited moderate leucocytosis while experiencing concurrent infectious processes, however, differential counts were consistent with infection. Several patients had occasional "traces of albumin" in urine samples but these did not persist and were negative on final evaluation. No significant changes in specific gravity, urobilinogen or sugar were noted. There were no abnormal results in liver function studies consisting of alkaline phosphatase, cephalin flocculation and serum bilirubin.

Discussion

The results of this investigation indicate fluphenazine to be a highly potent psychopharmacologic agent effective in treating chronic psychotic patients. The drug given orally appears to possess a more rapid onset of action and a longer duration of effect than any other oral ataractic agent in our experience. A response to fluphenazine may often be observed within 24 to 48 hours and significant improvement, even in chronic drug-refractory patients, may frequently be apparent within three weeks. It appears that once a patient receives a relatively heavy loading dose for several days, the long-acting character of the drug permits a simple schedule of twice daily or even once daily administration. It is our impression that the optimum therapeutic dosage range in treating chronic psychotic patients is from 5 to 10 mg. per day. Fluphenazine is a powerful agent and, in any individual, the dosage range between effective clinical response and bothersome side effects, particularly extrapyramidal reactions, may be very narrow. Many patients are susceptible to dosage variations. Increases in dosage, where necessary, should be small and gradual. For maximum benefit and safety, more careful individualization or adjustment of dosage may be required than with less potent phenothiazine tranquilizers.

Probably the most striking feature of fluphenazine in chronic patients is a capacity to act as a tranquilizing agent in calming tense, hyperactive, aggressive patients and also as a psychomotor stimulant in activating passive, lethargic, inactive patients. Although fluphenazine is more effective in controlling overt behavioral symptoms than delusional, hallucinatory symptoms, it generally seems to promote a more normal emotional response. This enables patients to become more interested in themselves and their immediate environment and, consequently, more accessible to psychotherapy or other rehabilitative therapies. The psychomotor stimulation observed in the more inactive individuals may be related to the side effect of motor restlessness encountered in many of the more active patients. Re-

gardless, as these passive patients became more active, they appeared more ambitious and their contact with reality improved. The occurrence of extrapyramidal reactions, although annoying to the patient, did not seem to interfere with clinical improvement.

It is not possible to report, on the basis of this study, whether fluphenazine has a cumulative effect or whether continued treatment would produce even greater benefits. It is evident, however, that the short-term influence of fluphenazine leads to significant improvement in a realtively large percentage of chronic psychotic patients.

Summary

1. Fluphenazine was administered orally over a period of three months, in dosage ranging from 1 mg. daily to 5 mg. three times daily, to 50 chronic psychotic patients previously resistant to ataractic therapy. Effectiveness of therapy was determined by overall clinical evaluation of patient response and a comparative consideration of a symptomatic criteria record taken before and after treatment.

2. Of the 50 patients given fluphenazine, seven (14%) showed marked improvement, 22 (44%) moderate improvement, and 21 (42%) no change in status. This resulted in a 58% significant improvement rate based on clinical impression. On the the basis of symptomatic criteria, an improvement rating of 63% was obtained.

3. The most pronounced changes were manifested in reduction of agitation (90%) and tension (78%) with a resulting 81% improvement in socialization. Fluphenazine was also effective in controlling hallucinations (57%) and delusions (58%).

4. Side effects generally were those common to other phenothiazine tranquilizers. The most bothersome were extrapyramidal reactions, expressed as motor restlessness, dyskinetic and parkinsonism syndromes. These were controlled by the addition of anti-parkinsonism medication, adjustment of dosage or both. There was no occurrence of hypotension and no evidence of blood dyscrasia or liver dysfunction in this series.

5. Fluphenazine is a potent psychopharmacologic agent with the swiftest onset of action and the longest duration of effect of any phenothiazine in our experience. It demonstrates a relatively narrow margin between the dosage producing optimum benefits and that eliciting side effects and, consequently, requires careful individualization of dosage.

6. Fluphenazine appears of great potential usefulness in the treatment of chronic psychotic patients resistant to other tranquilizing medication.

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Judgment in the Management of Low Back and Sciatic Problems

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Ruptured lumbar intervertebral disc with resulting nerve compression by extruded nucleus pulposus is undoubtedly the most clearly delineated entity producing back and leg pain. Clinical diagnostic methods are exceedingly reliable in separating most patients with ruptured disc from the remainder. Perhaps 10 or 15 per cent of patients with true ruptured disc show atypical patterns. Too many patients without ruptured disc are explored surgically in the too intense effort never to overlook a true herniation.

In the patient with a ruptured lumbar disc a period of low back pain generally precedes sciatic pain. However, only a very small per cent of patients with low back disability will ever develop nerve root compression. When true sciatic pain, indicative of nerve root involvement, does occur, it almost invariably dominates the clinical picture, with back pain a decidedly secondary complaint. The diagnosis of ruptured disc is most frequently made erroneously in patients with back sprain who have some reference of pain to other sites. This pain may be unilateral or bilateral, and is commonly referred to the groin, the testicle, the scrotum, the vagina, the lower abdomen, or the buttock and posterior thigh. It may follow a generally sciatic pattern. The most constant features of referred (in contrast to radicular) pain are: (1) It occurs chiefly, if not entirely, when back pain is at a peak; (2) It is decidedly secondary in intensity to back pain; and (3) It becomes less intense as it extends farther from the back. Probably the most common reference is to both buttocks and posterior thighs, not extending below the knees. Acute pain from back sprain is usually aggravated by coughing or sneezing, but the aggravation does not extend into the areas of referred pain. The mechanisms of this aggravation include the contraction of the erector spinae muscles with resulting strain at the damaged site and the momentary increase in venous pressure at the site of ligament injury. Many patients with acute back sprain will complain of leg paralysis, while actually there is no paralysis or weakness but only the finding that leg movements greatly aggravate back pain. The complaint that "the whole leg feels numb," often accompanied by hysterical anesthesia of that member, is commoner in patients without than in patients with true radicular involvement.

Most errors in diagnosis result from too great willingness to suspect a ruptured disc. It is certainly true that a patient with organic involvement of all the nerve roots at the 4th or 5th lumbar disc is often diagnosed as having hysterical paralysis. This error can result only from a careless, incomplete examination. Actually, there is no need for early diagnosis of ruptured disc among acute back sprains unless extensive organic paralysis is present. Once such paralysis is excluded (as well as fracture or dislocation), the patient is made as comfortable as possible and observed from day to day. However, careful questioning about exact areas to which pain is referred, and careful examination for minute objective findings of nerve root involvement will usually lead to proper suspicion of a ruptured disc even in early or atypical cases. Myelography is not performed in acute back injury unless evidence of severe, organic neurological involvement is present. Conservatism at this stage gives time for the evolution of more characteristic symptoms and signs.

The erroneous idea that pain of great intensity is due to nerve compression is prevalent. Certainly, more excruciating pain which is aggravated by smaller body movements originates from the specialized pain endings about torn ligaments than from trunks of nerve fibers directly stimulated.

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When patients claim a compensable injury, do not be heedless of their complaints. Be careful, be thorough, and inform yourself of the life pattern and reaction type of the patient. In other words, place yourself in the best possible position before judging subjective complaints. But be wary. Patients may have learned from lawyers or friends that certain aspects of their complaints will impress doctors. Only by developing detail, for example in the exact pattern of leg pain, can the physician determine its true significance. I have had doctors actually tell me that a patient's willingness (or even eagerness) to accept surgery is proof of true, organic disability. Reluctance is a more normal reaction. Nevertheless, willingness may be a result of a patient's belief in a new era of surgery. Certainly, the surgeon must be responsible for the decision, first that a condition responsive to surgery is present, and second, that the outlook for substantial recovery without surgery is poor. The intensity of symptoms must not be a determining factor unless the symptoms are those characteristically relieved by the surgery. Few decisions to operate should be placed in the hands of the patient without a definite diagnosis being made.

X-ray examination of the acute back is essential. Preferably, one complete examination should be made and the films be made available for all examiners.

Myelography

Myelography should not be performed during the acute stage of injury unless signs of serious neurological impairment are present. Unnecessary operative procedures are too often prompted by minor myelographic irregularities when early myelography is performed. Actually, true but incomplete herniations can be missed by too early use of myelography. When sciatic pain dominates the clinical picture and fails to improve under conservative treatment, myelography is indicated. In less typical suspects of ruptured disc, a longer period should be allowed for pain patterns to stabilize before myelography is performed. Myelography is not essential if a typical monoradicular lesion is present in a patient with normal spinal segmentation. If it will likely limit the necessity for exploration at multiple levels, myelography is indicated. Myelography must not lead to unnecessary exploration at additional levels because of trifling irregularities which are not in accord with the clinical picture. In performing lumbar myelography, the contrast medium must always be carried to the thoracic 9 level to exclude neoplasms involving the lower lumbar and sacral roots at their origin. Removal of essentially all the Pantopaque after myelography is obligatory.

Elevation of the spinal fluid total protein is a very important finding, and, in the presence of reasonably characteristic findings, often points accurately to the diagnosis of lumbar disc rupture.

Multiple Herniations

The frequency of multiple herniations has been exaggerated in writings on ruptured lumbar disc. The presence of two characteristic unilateral defects in the same patient is a clinical rarity. In practice, I find that the patient who has had "several discs removed" usually had no characteristic symptoms and signs at the time of operation and often little or no improvement following operation. The patient who should not have been selected for operation the first time very often undergoes a second operation within a few months. Every effort should be made to avoid unnecessary exploration of spaces from which no symptoms are arising and to avoid penetration of the annulus with evacuation of the nucleus pulposus when no definite lesion is present. The postoperative course after multiple exploration, even if only the frankly ruptured disc is entered, is rarely as smooth as the course after operation only at the pathologic interspace. Approximately 10 per cent of patients who make a satisfactory recovery after disc surgery will develop a root lesion at the same or a different location within the next several years. Such cases are much more easily treated if the initial surgery was not unnecessarily extensive. Ruptured lumbar discs rostral to the 4th lumbar interspace are rare,

and in my own cases half of the 3rd lumbar ruptures are in patients whose 5th lumbar vertebra is essentially incorporated into the sacrum. Enucleating a normal disc is more frequently followed by a stormy course of back pain than is enucleating a ruptured disc.

Indications for Surgery

No interspace exploration should be performed in the acute back unless multiple nerve root involvement with significant muscle weakness is present. No matter how definite the diagnosis of ruptured disc, I feel that it is wise to allow three or four weeks under conservative treatment before operation. Patients with all of the classical objective findings do recover and return to active work without early recurrence of symptoms. The presence of objective findings in the absence of disabling symptoms is not an operative indication. The occurrence of cauda equina compression at a later time in this group of patient is too rare, in my opinion, to subject the asymptomatic patient to surgery. However, any considerable motor weakness in the asymptomatic patient is an indication for surgery. Certainly, when sciatic pain is severe and the diagnosis is positive, the period of conservative treatment need not be extended as long as when clinical findings are at variance with the diagnosis of ruptured disc. The period of conservative treatment is shortened if hypodermic opiates are truly necessary to relieve pain, provided that the diagnosis of ruptured disc is reasonably certain.

In a patient previously operated upon for ruptured disc, the localization of the lesion causing pain may be quite difficult. The myelogram may be distorted by subarachnoid adhesions. Careful review of the previous operative record is imperative. The patient should be studied over a long enough period to permit the development of new neurological signs if they are forthcoming. An acute back attack without radicular pain is usually self-limited and should not lead to immediate myelography. Careful appraisal of signs will usually lead to suspicion of the origin of pain from one particular root. Even when extensive subarachnoid adhesions are found by myelography in a patient who, after a definite period of relief, suffers recurrent sciatic pain, pain must not be readily attributed to these adhesions. A proper search at the right level will often reveal frank nerve compression by herniated nucleus pulposus with relief of disabling symptoms following its removal.

Operative Technique

Operative technique has changed little in the last two decades. There is no technique which will overcome the handicap of selecting the wrong patients or exploring the wrong interspaces. Gentle handling of the thecal sac and nerve root is imperative. Sufficient exposure must be made to develop the lateral margins of dural sac and root and to uncover a mass which is somewhat atypically located. One must not go *past* the loose piece and only evacuate the nuclear cavity. I fear the introduction of any plastic or other substance into the thoroughly evacuated nuclear cavity. Multiple explorations are all made separately with preservation of spinous processes and parts of the laminae, removal of which is not necessary for proper exposure. Hemostasis is meticulous, but usually simply obtained. Reoperation is facilitated by adherence to this plan.

The surgical pathology should be obvious in most patients explored. A frank fissure or laceration of the annulus fibrosus with nuclear material filling the gap is essentially as positive as completely extruded pieces of nucleus pulposus. A resilient bulge of this annulus with large fragments of nucleus pulposus evident upon breaking through the outermost layers of the annulus is a concrete finding. The findings in some instances, although positively indicating the abnormality of the intervertebral disc, do not necessarily indicate compression of the root. If a slightly suspicious annulus is penetrated, and only fresh, glistening small bites of nucleus pulposus can be removed from within, a formerly normal disc must be acknowledged. Since operation is performed in the prone position, the dramatic evidence of root compression which would be evident in a sit-

ing position is often absent. Misinterpretation of the findings at one interspace will readily lead to failure to expose the true cause of a patient's pain. Particularly in obese patients, the surgical incision is often made high. Failure to expose the sacrum and make a true count of the vertebrae is an inexcusable, but not uncommon, error.

Spinal Fusion

There are certain indications for spinal fusion. The history of recurrent episodes of severe back pain, the repeated finding of flat back, sciatic scoliosis and muscle spasm in the physical examination, the finding of definite luxations or other acquired "weakness" on x-ray examination and the factor of the kind of work a patient must later perform may justly strongly influence the decision toward fusion. In the patient whose back disability has been transitory and whose disabling symptom is sciatica, there probably should be no thought of spinal fusion. In practice, we find spinal fusion under serious consideration when the actual indications for it are minimal or absent. At times, the patient wants fusion because he has been told he can't get well without it. Fusion is often done "because you may need it sometime, and if you get it now, the insurance company will pay for it." Anomalies of common types which are compatible with perfectly normal back mechanics are often invoked as a reason for fusion. Probably the commonest unwarranted indication is the persistence of back symptoms long after a back sprain has cleared objectively in a patient who is involved in litigation.

Spinal fusion is often suggested in patients who, after one or more operations on the lower back, have persistent sciatic pain. Certainly, spinal fusion is contraindicated under such circumstances and, instead, the most careful appraisal is undertaken to determine why persistent root involvement is present and to map an appropriate operative attack on the cause.

Differential Diagnosis

The group of symptoms and signs characteristic of ruptured intervertebral disc clearly indicate this lesion in from 80 to 90 per cent of the patients who have it. *Persistence* of sciatic pain is important in the diagnosis of ruptured disc, since transitory sciatic pain may well have another origin. Persistence cannot be observed if the patient is rushed into the operating room, perhaps in fear that he might recover if waited upon. Since the syndrome of ruptured lumbar intervertebral disc is so constant, any patient showing more or less than the usual characteristic symptoms and signs must be considered as possibly having some other condition.

The first group of patients to be excluded is the group with back sprain without valid evidence of nerve root involvement.

X-ray will exclude spondylolisthesis, bony tumor or tumor of bone, rheumatoid arthritis or advanced osteoarthritis.

Symptoms and findings not typical of ruptured disc are found in malignant lesions. The absence of x-ray evidence of metastases does not exclude malignancy. Special examinations are indicated if there is a possibility of malignant tumor of prostate, testis, colon, bladder, uterus, ovary, etc.

A careful regional examination is necessary when pain is localized at some point along the course of the sciatic nerve. Abscess, neurofibroma, glomus tumor or intramuscular injection can be the source of sciatic pain.

Spinal cord tumor may accurately mimic a ruptured disc. Only by including the lower thoracic region in routine lumbar myelography can this lesion be excluded. Often, back symptoms characteristic of ruptured disc have never occurred.

In the differential diagnosis of articular back pain, I feel that osteomyelitis of the spine or pelvis must be considered when pain is severe. Back pain originating from abdominal aneurysm is being recognized with increasing frequency, and a lack of signs indicating that back pain is of mechanical origin leave this possibility open.

The pain of intermittent claudication in the gluteal or hamstring muscles has often been suspected as being due to ruptured disc, but the pattern of occurrence with exercise and relief with a few moments of rest, even in a standing position, together with evi-

dence of peripheral vascular disease make the diagnosis.

An occasional patient will have recurrent acute or subacute back attacks with reversal of lumbar lordosis and often with sciatic scoliosis. There is no sciatic pain. A rupture of the intervertebral disc without nerve root compression has been found under these circumstances, both by myelography and by surgical exploration. Immediate results seem good in some cases. A patient with these symptoms would ordinarily be under consideration for spinal fusion. It would seem wise to perform myelography before fusion is performed if recurrent attacks with distortion of the lumbar curve have occurred. The role of the intervertebral disc in recurring back attacks and the possibility of relieving such attacks by enucleating a pathological intervertebral disc are still on uncertain ground. I hesitate to bring this subject up at all because of the number of chronic back patients without dramatic findings who are subjected to both myelography and surgery.

In no field of surgery will the careful selection of patients pay greater dividends in the form of good results than in operations for ruptured lumbar intervertebral disc.

EASTERN PSYCHIATRIC RESEARCH ASSOCIATION

A Symposium on "Expanding Goals of Genetics in Psychiatry" will take place on Friday and Saturday, October 27 and 28 at the Eighth floor auditorium of the New York State Psychiatric Institute. Held in conjunction with the Sixth Annual Meeting of the Eastern Psychiatric Research Association, the entire symposium is under the auspices of the New York State Department of Mental Hygiene and the Department of Psychiatry, College of Physicians and Surgeons, Columbia University, New York. Program Chairman is Dr. Franz J. Kallmann.

The program has been arranged to assess the functions and future objectives of a genetics department in the psychiatric area; review the past and present research activities in psychiatric and behavioral genetics; and to give an authoritative appraisal of recent advances in basic genetics.

Chairmen of the sessions include: Dr. Paul Hoch, Commissioner of Mental Hygiene, State of New York; Dr. H. Bentley Glass, Professor of Biology, Johns Hopkins University; Dr. Lawrence C. Kolb, Professor and Chairman, Department of Psychiatry, Columbia University; Dr. Charles Buckman, Director, Kings Park State Hospital; and Dr. William Malamud, Professional and Research Director, National Association of Mental Health.

For further information contact Dr. David J. Impastato, 40 Fifth Avenue, New York 11, N. Y.

ACADEMY OF PSYCHOSOMATIC MEDICINE

The Eighth Annual Meeting of the Academy of Psychosomatic Medicine will take place at the Emerson Hotel, Baltimore, Md., on October 12-14, 1961. The October 12 sessions will deal with teaching, research, and diagnosis, as well as the basic sciences. On Friday, October 13, speakers will discuss psychosomatic considerations in cardiovascular disease, plastic surgery, and pregnancy. The final day of the meeting will include papers on the problems of adolescence, epilepsy, and obesity.

Program Chairman is Dr. George F. Sutherland, 3700 North Charles Street, Baltimore 18, Md.

Trifluoperazine in Anxiety Associated with Organic Disorders

FRED J. PHILLIPS, M.D., and DAVID M. SHOEMAKER, M.D.

Although a certain amount of anxiety is to be expected in the patient with an organic disorder, there are those in whom anxiety becomes disproportionately severe and impedes the course of treatment. In such patients, measures to relieve emotional tension are as much a part of treatment as those to relieve somatic discomfort. Often encouragement, sympathy, and other supportive measures are not always practical because the patients are too tense to listen. It is in such cases that the adjunctive use of sedative or ataractic therapy is helpful.

Occasionally these drugs produce drowsiness or indifference. Many patients mind neither, but in those who are working, such effects present added problems—difficulty in concentrating, staying alert, and pursuing purposeful activities. Efforts to reduce or eliminate these unwanted effects have led to the synthesis of compounds capable of allaying anxiety without appreciably affecting mental or physical activity. A compound that seems to show promise in this regard is trifluoperazine.

This drug was found by Lehmann and Knight[1] to act selectively to decrease perceptory intake but increase attention, concentration and general vigilance, as determined in a series of psychophysiologic tests. In subsequent clinical trials it did not impair alertness or coordination in psychiatric out-patients who had to drive long distances to the clinic.[2] Moreover, the drug appears to be safe for office practice; laboratory studies in patients receiving the drug from two months to one year showed no evidence of blood dyscrasias or liver dysfunction.[3] Because these reports indicated that trifluoperazine might offer some advantages in office patients who had to continue working, we decided to evaluate its use in patients who were suffering from anxiety associated with organic disease.

Patients and Treatment

The subjects consisted of 13 men and 32 women ranging in age from 22 to 71 years, most being over 35. In all, treatment for organic diseases was being compromised, complicated, or otherwise impeded by mounting emotional unrest. In some, it bordered on a state of panic. Nine patients were being treated for peptic ulcer and seven for various other gastrointestinal dysfunctions. Other disorders included: menopausal syndrome (6), hypertension (4), diabetes mellitus (4), migraine (2), neuritis (2), dermatitis (3), hyperthyroidism (3), cholecystitis (2) and one case each of chronic hepatitis, Hodgkin's disease, and multiple sclerosis.

All were receiving medication directed at the primary disorder when trifluoperazine was added to their regimen to control excessive anxiety. They were started on 1 mg. trifluoperazine tablets, two or three times daily. Dosage was increased as needed. For most patients (90%), 2 mg. twice a day produced an optimum response. It was interesting to note that some patients who improved on low starting doses often showed a better response when dosage was increased from 1 to 2 mg., twice daily.

Evaluating the effects of drugs in anxiety is admittedly difficult in a clinical study such as this, so we designated results simply as *Satisfactory* or *Unsatisfactory*. The result was listed as *Satisfactory* if the patient reported relief of nervousness and other presenting symptoms of anxiety and our observations of the patient's manner and behavior during the office visit confirmed this report. *Unsatisfactory* meant any lesser response or that troublesome side effects had occurred.

Results and Discussion

Of the 45 patients 37 (82%) showed a satisfactory response, experiencing a degree

of mood amelioration which was reflected in their physical condition. They became less worrisome and less irritable and generally felt better physically. For instance, a 49 year old woman with diabetes mellitus was extremely tense and anxious, constantly worried about the disease. Reassurance did not seem to help, and her anxiety had reached the point where it was causing her more anguish than the diabetes itself. After receiving 2 mg., b.i.d., for two weeks she was less upset about her disease, receptive to counselling, and seemed better able to accept the restrictions which are the diabetic's lot. No interference with insulin requirements was noted.

Patient response to trifluoperazine was particularly good in those with peptic ulcer or other gastrointestinal dysfunction. Therapy with antacids or anticholinergics had proved inadequate because their anxiety persisted uncontrolled. With the addition of trifluoperazine to their regimen, 14 of the 16 patients with gastrointestinal disorders had less tension and less abdominal pain, nausea, and other epigastric distress. Improvement was often noted within 48 hours. A typical response was that of a 48 year old man with a radiographically proven duodenal ulcer, who, in spite of an anticholinergic-tranquilizer combination, continued to complain of gastric pain, nausea, and persistent nervousness. However, two weeks after being switched to trifluoperazine, 2 mg., b.i.d., he reported with much satisfaction that he was able to resume working every day because he was feeling so much better and that his nervousness and nausea had disappeared.

Unfortunately, such results were not seen in every patient with organic disease. Persistent anxiety and tension that plagued a 68 year old woman with diabetic neuropathy were not diminished on this drug any more than it had been on the several previous tranquilizers she had received over the past year. It was, therefore, discontinued after one week's trial.

Seven other patients reported *Unsatisfactory results.* Insofar as presenting symptoms, diagnoses, and adequacy of treatment were concerned, they did not appear to differ significantly from those who benefited. Some who had been taking other tranquilizers did better on them than on trifluoperazine even though they caused drowsiness. One such patient was a 60 year old hypertensive woman whose nervousness increased while on trifluoperazine but diminished when she was switched to mepazine. Others had environmental problems which could not be removed; as long as they remained in their stress situations, little benefit could be expected from ataractic therapy. In the hypertensive patients in this series we saw generally good results. The exception was the woman mentioned previously who became more nervous while on the drug. We observed no rise or fall in blood pressure that could be attributed to trifluoperazine.

No loss of drive occurred, that is, the drug had the ability to relax tense patients without producing the dulling indifference or sleepiness which is so undesirable in ambulatory patients. The only instance of drowsiness we encountered with the drug was remedied by lowering the dosage from 4 to 2 mg., which fortunately proved adequate for maintaining the patient in a calm state. Since it is, for all practical purposes, free of soporific effects, trifluoperazine is well suited for tension states in patients with chronic physical illnesses.

Instead of sedating, trifluoperazine seemed, in some patients, to have a stimulant or mood-elevating effect, at least relative to other tranquilizers. Their outlook and spirits were brighter; several in trying to characterize their improvement simply said, "I feel more like doing things." One of these was a 37-year-old woman with Hodgkin's disease. Her illness and the resultant mental strain had progressively caused her to surrender all interests and activities that might have made her life more tolerable; with trifluoperazine she regained some of her former spark and was able to return to work at her secretarial job.

These subjective reactions might have been disregarded, except that they came from patients who had received other tranquilizing drugs previously without express-

ing any such reaction. It is quite possible that these remarks are not the result of specific qualities of the drug, but are due primarily to the relief of anxiety. In any event, trifluoperazine therapy did have the effect of removing preoccupations with organic disease and morbid fears. The improvement in subjective reactions of convalescent patients was particularly gratifying.

Although tranquilizing drugs are generally considered of limited value in patients with depressive symptoms, we found trifluoperazine equally helpful in treating the apathetic, emotionally flat, chronic fatigue syndrome as in those who were high-strung and overwrought. Menopausal patients and others whose anxiety had resulted in a state of fatigue, apathy, and unwholesome indifference often reported a revival of interest in activities they had given up because of feeling "too tired" or because any activity was "too much bother."

Summing up our impressions, we found trifluoperazine a useful adjunct in controlling anxiety associated with organic disease whenever this anxiety did not respond satisfactorily to counselling and reassurance. In the doses used, it provided a satisfactory calming effect without causing drowsiness or indifference that might interfere with the normal duties and responsibilities of ambulatory patients.

Quakertown, Pennsylvania.

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Free Discussion in Teaching Group Therapy to Residents

JOHN D. LATENDRESSE, M.D., and DAVID F. KENNEDY, M.D.

Our free discussion group is composed of two third year residents, two second year residents, a teaching fellow, a social worker and a psychiatrist who supervises the group therapy experiences of the residents. The atmosphere is one of general freedom of discussion with little concern about status. The subject matter revolves about the group therapy ventures of the members, all of whom function as therapist or observers in one or several groups. Our meetings are not considered to be a therapeutic experience but one of learning. This goal accepted attendance does not obligate an individual to express feelings or associative material unless he so desires.

Up to six years ago, in the Albany area, teaching psychiatry to medical students and residents was carried on in a classical didactic teacher-student relationship. The treatment of patients in the Albany Hospital Medical Clinic's out-patient department was done in the traditional one to one relationship. The supervision of resident therapists was also on an individual basis. In 1954, the first group therapy was initiated. A third year resident participated as observer. The senior author had recently completed his own training, and although he had had some experience in group psychotherapy, teaching or supervision of treatment was a new experience. In retrospect, the familiar but often nebulous technique of teaching "how to do psychotherapy," can be discerned. But the concept of learning how to think about group therapy seems to have been overlooked. The atmosphere of the group therapy sessions was more of teaching than of encouraging growth in patients and residents-in-training. As the resident-observer grew in experience, usually after some six months of observing, he became a therapist, often to the dismay of the others in the group. The original therapist-supervisor then became the observer, who, after each session would discuss with the therapist his technique, advising him in what manner he might increase his skill. After some six to eight months, the supervisor-observer would withdraw from the group and be replaced by a resident-observer inexperienced in group therapy, who depended upon his general knowledge of psychodynamics to evaluate the activity of the group. It was, of course, necessary for the author to continue his supervision of this resident-therapist-observer team. As the psychiatric resident staff grew (from three to a current nine), so did the number of groups. Ultimately the supervisor was confronted with more residents requiring supervision in their group therapy ex-

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periences than could be practically followed in individual sessions.

To consolidate what gains there were, in February 1959, all the therapists and observers involved met weekly with the supervisor for one hour for free discussion of their experiences. Patten in the *International Journal of Group Psychotherapy* (Vol. 4, #4, Oct. 1954) mentions such advantages as weakening of the caste system, and that the doctors gained in knowledge and awareness of their own anxieties and defenses. We found this to be true and discovered many advantages far beyond mere economy of time. To date 11 groups have been conducted in the out-patient department of the Albany Hospital Medical Clinics. A group begun in 1954 is still going although the present members are not the same as the original group. Another continues from 1956, three were started early in 1958, six were initiated in 1959. Three groups have been terminated. These 11 groups consisted of six groups of adolescents, four girls and two boys, averaging approximately 15 years of age. There have been five adult groups, all of mixed sex. The adolescent groups were composed of children residing in institutions for the care of neglected children or as described by the courts, delinquent children. The adults might be generally classified as personality disorders, personality trait disturbance, and ambulatory schizophrenics.

Group therapy differs from individual therapy in that the interaction of the patients represent in vivo what the patient often can only attempt to describe in the individual session. The patient-therapist relationship is diluted in a group session, thereby allowing a level of expression of feeling not often attained in brief or nonpsychoanalytic therapy. Mutual mistrust and hostilities can be worked through among the members themselves and in relationship to the therapist. Any therapist confronting a group of six or eight people, displaying demanding, hostile behavior, must feel anxiety.

A therapist's attitude revealed by verbal or even non-verbal expression are quickly picked up by a discerning group and can become a subtle, unspoken inhibitor to the growth of individuality in the group. If the therapist lets the group grow in strength, he must depend more on his own therapeutic skill and less on his role as the omnipotent physician. It is for these reasons that the presence of a skilled observer is required. The observer, taking no active part in the session is not generally considered to be involved. Although he is often used as the object of the group member's projections, he is assumed to view the proceedings objectively, so that he with the therapist may recreate the sessions with reality and less involvement in the magical thinking of the patients. In our groups, not only were our observers unskilled, but it evolved in our discussion group that they were not always objective.

The therapist in training is anxious and unsure. In a group setting his therapeutic skills, about which he feels defensive, are exposed to other members of the staff in the person of the observer. With the therapist-observer team having to work out these feelings, the vicissitudes are many. This therapist-observer team is apt to submerge its rivalries, mutual fears and distrust in diverting discussions of conflicting ideologies and methods of technique. If one should be a supervisor or a person of senior status, that person may withdraw into a didactic authoritative position, in which no personal growth is apt to occur for either individual. Less learning is acquired by the junior member in spite of his respectful or accepting manner. A "good" student soon learns to ask the right "questions." Ekstein and Wallerstein in their book, "The Teaching and Learning of Psychotherapy" (page 153) state:

"The supervision evokes an affectively highly charged situation for the therapist about whether he will go on being his old professional self, or try to become some new self, with all the trouble and anxiety which goes along with this conflict about making the change. This is often handled by blaming the supervisor, or the structure, or both. 'It's you and your function that inhibit me.' Ultimately, before learning can proceed effectively, the externalization must be taken back and the problem internalized as in inner psychological dilemma."

Hugh Mullen, in a discussion of transference and countertransference in group therapy, has stated:

"I believe that one could objectively measure and describe the results of the group psychotherapeutic venture just as well by an observation of the therapist's intrapsychic change as by the intrapsychic movements of the various patients."

The free discussion group offers an opportunity for support and growth of the therapists in training. We have found that our group therapy patients responded to resolutions of difficulties in the therapist-observer relationship. In all we have had almost 600 group therapy sessions over a period of six years.

Two things stand out in these notes:

1. The omnipotence of the therapist. With the notable exception of when the observer is also the supervisor. Then both the resident-therapist and group become preoccupied with feelings about the observers "seniority."

2. The emphasis of the notes is on the content of patients productions.

Introductory Statement as to New Situations

Since the beginning of 1959 about 250 group therapy sessions have taken place among the eight groups in the clinic. There seems to be a new awareness of the therapist-observer-group relationship. There is, moreover, an increased reporting in the interpersonal activity of the group. For example, in December of 1959, in a group with two observers, a practice we often use, one observer's remarks "that Doctor K's (the other observer) nonverbal communication was interpreted by this ob-

server and by the therapist as being hostile towards the therapist. It was felt by this observer to have an inhibiting effect on the degree of freedom that the therapist may feel in handling the group." The behavior of that observer, who later was able to express in the free discussion group, his desire to be handling the group himself, consisted of sighs, drowsiness, and restless body movements. In a recent session of a group of adolescent boys, an observer states that the therapist, Doctor S., feels "that there is a danger of these boys acting out." Three of our groups have been composed of adolescent girls who are in institutions run by a religious order. In one group, a nun social worker functions as observer. At one time the therapist of that group felt that having a religious representative in the group was a mistake and that her presence was blocking the freedom of the group's activity. She, in turn, resented his precipitousness in wishing her to leave the group. During the free discussion session with the nun observer as participant, the personal feelings between the therapist and observer were brought forth and it was decided that she remain. They successfully resolved their feelings about each other. In the next group therapy session it appeared that the tension between the therapist and observer was sufficiently lessened to permit the girls to bring forth their own misgivings about the situation.

On another occasion the free discussion group was seen to enable a resident therapist to handle a difficult situation. It was learned that a member of a women's group had concealed a large income, which she knew would make her ineligible for clinic treatment. The therapist was not only faced with working this through with the patient, but also to effect her departure from the group without instilling the rest of the members with the fear of their imminent removal. After several sessions in the free discussion group, the fear of this patient was brought out. She and her family were influential members of the same religious community as the therapist. In discussing this and working it through with the discussion group, he was able to accomplish the patient's removal from the group with some skill. After the patient's departure from the group, the marked affective changes that took place, clearly justified our earlier feelings that her presence had inhibited the group activity.

We have made the following observations on the function of the free discussion group:

1. The therapists, who, in a free environment where mutual dependence and awareness of differences are openly recognized, were able to ventilate and to some extent resolve their anxiety.

2. The unspoken concept of the therapist as omnipotent was exposed and the observer moved into a new position. With him moved the group, in which increased mutual respect, and less fear was noted.

3. The unresolved conflicts as result of status, rivalry or differing idealogies came into the open. This freed the patients in the group from involvement in the therapist-observer difficulties.

4. It appears that the therapist's ability to tolerate hostility from the members of the free discussion group may well set the pace for his respective group therapy sessions.

It is relevant to point out that the group therapy program has moved beyond the out-patient department of the hospital. The therapists, either sometime during their third year of training or after, have worked as therapists or observers in five institutions in the community which care for adolescent children. At present there are a total of 12 groups currently being treated in these institutions. Moreover, the technique of group teaching of psychiatry is also used with the third year medical students, the nursing students and physiotherapy students. All but two of the leaders of these teaching and therapeutic groups are members of the free discussion group. The use of teaching psychiatry in a group setting, of course, has much precedence and has been described in the literature. An unusual aspect of the whole program is that it has been a rather inbred situation, most of the teachers and therapists have begun their group therapy experiences in the same program with the same supervisor. It is felt that the free discussion group has helped to prevent the loss of the techniques developed in student-teacher identification.

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Clinically Proven

in more than 750 published clinical studies and over six years of clinical use

Outstandingly Safe and Effective

for the tense and nervous patient

1. simple dosage schedule relieves anxiety dependably — without the unknown dangers of "new and different" drugs
2. does not produce ataxia, stimulate the appetite or alter sexual function
3. no cumulative effects in long-term therapy
4. does not produce depression, Parkinson-like symptoms, jaundice or agranulocytosis
5. does not muddle the mind or affect normal behavior

Usual dosage: One or two 400 mg. tablets t.i.d.
Supplied: 400 mg. scored tablets, 200 mg. sugar-coated tablets; bottles of 50. Also as MEPROTABS*—400 mg. *unmarked*, coated tablets; and in *sustained-release* capsules as MEPROSPAN®-400 and MEPROSPAN®-200 (containing respectively 400 mg. and 200 mg. meprobamate).
*TRADE-MARK

Miltown®

meprobamate (Wallace)

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